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Original Correspondence.

THE STEAM-COAL QUESTION.

SIR.—In your leading article of last week, the following passages occur, which put the whole practical question of the comparative quality and perfect combustion of various coal in a concise, clear, and truthful point of view. You say "The trade associations of the North of England, Lancashire, North Wales, and South Wales, all claim either the superiority, or, at least, to be on equal standing with each other upon the quality of steam-coals. This subject is one of so great importance that it cannot rest until decided; the ultimate decision is, however, we believe, far distant. *Science proves to us beyond doubt that the true calorific powers of the best coals, in any of these districts, do not vary greatly.* If in one district the coal contains a larger proportion of carbon, in another district the deficiency of carbon is made up in the calorific powers by a supply of hydrogen."

Further on you also say—"It is now the work of the mechanical engineer to take the matter in hand, and show us how he can deal with a substance, the value of which he knows; but, as its physical condition varies, he must adapt his instruments to use it rightly, as required."

Relative to the first quotation, however, I would observe that Staffordshire, Derbyshire, Yorkshire, Gloucestershire, and Nottinghamshire should be added to the category of districts from whence steam-coal of unquestionably good quality can be obtained. I say this as the result of experience in testing, on a large scale, the evaporative power of fuel, commencing so long as 1827, and, after some intermissions, extensively renewed within the last ten years. It must also be remembered that price, as well as quality, is an essential element of computation, into which the distance from the pit to the place of consumption or shipment must necessarily enter; and, this duly calculated, I am warranted in stating that steam-coal from Staffordshire, Nottinghamshire, and Derbyshire, can be procured in London at a cost, estimated upon the annual consumption to perform a given duty, of less than that for either North-country or Welsh.

Your chemical deduction, that the varying proportions of the carbonaceous and hydrogenous gases, contained in different seams of steam-coals, require corresponding difference in the adaptation of means to evolve their calorific properties, is indisputable; and your appeal to "the mechanical engineer," in the second quotation given, to show how he can effect the required results, under the variety of conditions implied, is extremely well conceived, and quite as well timed. To me, at all events, that appeal is not made in vain.

Cognizant of the facts to which you have so ably directed public attention, I have ascertained, with some degree of nicety, through the medium of my patent Regulating Air-door, the quantity of oxygen required to ignite the combustible gases, thereby preventing smoke, promoting flame, and increasing the pressure of steam in boilers of all forms, with coal varying from the least to the most bituminous quality; and, as an illustration, I have found that the general run of steam coal from South Wales requires only one-sixth part of the supply of oxygen that is indispensable to the similarly perfect combustion of the West Hartley. Yet in no case can the precise quantity be determined beforehand; inasmuch as the furnace draught is not always alike, although all the local conditions of the boilers may appear to be the same; whilst, as between land, marine and locomotive boilers respectively, and, further, as between marine boilers tried on shore, or in actual use at sea, the difference is very material.

Moreover, so nice is the requisite adjustment of the regulating plate, that, with the admission of less or more air into the furnace than the quantity previously ascertained with the Regulating Air-door to be the supply practically required, the steam pressure is invariably lowered. *Not enough air, and the coal gases escape unignited—too much, and the temperature of the furnace is reduced.* There is no mystery in this. Experience has demonstrated to me the fact, that when the air admitted is enough to prevent any appearance of smoke from feeding with Welsh steam coal immediately on closing the door, and from West Hartley in less than a minute, the precise supply relatively afforded is continuously required, and the regulator is consequently so fixed and retained until any change in the description of fuel may render desirable a corresponding change in the admission of air. Less or more, and steam is lost.

What can be thus easily, inexpensively, and effectively done by this invention may be hourly seen on board the *Queen* steam-ferry, plying between the Victoria Docks and Blackwall Pier; and elsewhere, in ample variety of application, by enquiry at my offices.

Nor does the question of different sorts of coal exhaust the subject. Other fuel, *e.g.* coke, demands its due proportion of oxygen. I have at this moment a regulating air-door fitted to a locomotive that is running daily on a railway to and from a London station, preventing smoke, &c., with coal, and *economising the consumption of coke*. When the skilful, reliable, and much-respected Superintendent of the locomotive department on that line has completed his experiments—proofs I should rather say—I shall ask the favour of your publishing his report.

I venture, then, upon those premises respectively to suggest, that when these adverse steam-coal proprietaries join issue fairly, at length—practically, and under unimpeachable, unquestionable circumstances—they will recollect that I can provide them with such means of mechanical examination as cannot fail of doing justice to their diverse colliery productions; because, whenever "the physical condition (of the coal) varies" I can adapt my "instruments to use it rightly, as required;"—to their safety as competitors—to your honour if, besides opening the lists you will also stand as umpire—and to my profit if such a good thing can be so well applied.

Fish-street Hill, May 12. J. LEE STEVENS.

MANUFACTURE OF IRON AND STEEL.

SIR.—In Mr. C. Sanderson's recent lecture before the Society of Arts on the "Manufacture of Iron and Steel," he gives an opinion unfavourable to the manufacture of steel directly from the ore, founded on the assumed fact that the molten mass cannot be homogeneous in temper or combination with carbon, and, therefore (which would be the fair conclusion from such premises), would produce ingots which would not "draw clear." But do "converted" bars, even from the most costly materials, when melted, *always* produce ingots which "draw clear," and free from "cracks?" In practice, what is the operation? The bars are broken up, and the pieces are *classed* according to temper, degrees of hardness, &c., the same bar yielding portions often widely different, and the same piece varying from its surface to its centre. This is unavoidable; and the mere accidents of varying density, or freedom from cinder, or position as to heat are enough to render different in temper even adjoining particles. The melting has for its object the removal of these defects in homogeneity; it is its whole and sole merit, for could we only obtain converted bars of *perfect* evenness of temper throughout and free from cinder, the melting process would become a mere costly superfluity. Now, as to the same inequalities in steel made directly from the ore, which, in the infancy of the process (as in all other cases of novelty in technical operations) will necessarily be of more frequent occurrence than at a more advanced stage of the art, I venture to assert that the means of preventing their existence are much more under our control than they are in the case of steel made from converted bars, for the sole and simple cause lies in the inadequate pulverising of the ore and mixture of the materials, the larger particles taking a longer time to arrive at their proper condition than the smaller.

The removal of this cause is a simple and inexpensive mechanical operation, the application of which it is not unlikely that Mr. C. Sanderson may witness before long. As to the action of the earths present, it is simply *nil*, for the moment the ore is deoxidised their combination with the iron is not possible, and, if properly adjusted, little or no metalloids will be reduced from them (silicon, aluminum, &c.), even if we are quite sure that their presence is deleterious, which we are not. On the other hand, we do know that the presence of the silicate of the protoxide of iron causes all the "blows" or "bubbles" which reduce the body or density of the steel, in steel made from iron bars often full of "tap cinder." If Mr. C. Sanderson had objected to the *cost* of the melting so bulky a mass as ore and charcoal, &c., in pots, he would have been nearer the mark; but even this (supposing that pots are always to be used, which is not so certain) will be got over in time; and were it not, the cost in the case of steel for superior purposes is not formidable after all. But as to the ingots not drawing clear, or cracking under the hammer, I think it can be proved that the accidental condition as to heating and cooling have often most to do with the phenomenon; for I have observed cracks where the steel was most homogeneous—where it was *distinctly crystallised*; and we know that heterogeneous matter cannot crystallise at all. Might not the *too great* homogeneity in such cases be the essence of the defect, and a few impurities prevent such crystallisation? The question is not without

interest. One thing is certain—the monopoly of the Swedish and Russian makers is doomed, and British-made steel iron will soon rule the quotation of price, to the vast advantage of this important branch of manufacture.

May 13.

TUBAL CAIN.

NEW IRON METALLURGY.

SIR.—In the report of your correspondent from Monmouthshire and South Wales, in last Saturday's Journal, he states, in reference to my "Improvements in Iron Metallurgy," "that the cost of altering the existing works, to admit of Mr. Rogers's suggestions being carried out, would be rather heavy; and no proprietor seems disposed to incur the expense at present." On this point I would beg to observe, that *no alteration* would be at all necessary, with respect to either the blast or the puddling furnaces. In adopting the "improvements," I would suggest, all that would be required is suitable conveniences for the preparation of smelting and puddling fluxes; the cost of which would depend upon localities, and the extent of works, and would be comparatively small in amount; neither would it materially matter as to the state which the blast-furnaces may be in, provided they are not in a tumbling-down condition, or entirely shut up with cooled or confused materials: so that no ironmaster need be under apprehension as to any serious cost in adopting the improvements I would recommend for their consideration.

S. B. ROGERS.
3, Depot-street, Newport, Monmouthshire, May 10.

IRON MANUFACTURE—MR. SAMUEL LUCAS'S PATENT.

SIR.—An article on "Iron Manufacture in England" appears in the Supplement of the *Mining Journal* for May 8, but that part relating to Mr. Lucas's patent is calculated to mislead scientific men who have not the means of a practical test. The Lucas family for a long time employed a great number of persons, by various branches of trade carried on in the village of Dronfield, midway between Sheffield and Chesterfield. They were highly respectable and well intentioned, but the mischief of the patent alluded to will long be felt. Improvements to be valuable must be enduring; it is not enough that they serve a present purpose, but the public good is the end they should accomplish. The object of cheapening hardware manufacture led to the plan of casting knife-blades, scissors, forks, &c., in sand, and by that means the cost of forging was avoided. Could the articles cast have been as serviceable as those forged a vast economy of labour would have been effected, and the credit of the manufacturer would have remained unimpaired, but they were found brittle and comparatively worthless. To this Mr. Lucas turned his attention, and discovered a process of annealing, or as it is now called softening, by which he obtained articles which would endure the processes of manufacture. That they were turned into *maltable iron* is a mistake, which any practical person could demonstrate. They could not be turned into other shapes than those in which they left the mould. They would not spread under the hammer though heated at a very low temperature; and to draw, or weld, or bend these articles as ordinary English iron, was an absolute impossibility. As knives, they would not carry an edge; as scissors, they would *do to sell*; as forks, they were never worth the handles into which they were put. It is well known that forks are put into hot water after being used; and it is one of the failings of this professed improvement that those *made by it* will never come out with the colour they had previous to their immersion.

In Birmingham this plan of softening has enabled manufacturers to produce cheap cast-iron ornaments, snuffers, &c., but what purpose have they served? What maker would hazard his name by putting his name upon them? Polish such articles as highly as possible, and they will rust almost immediately. What practical object has been secured by this patent? Could a bar of iron equal to any of our British production be obtained from it? Most certainly not; and no practical ironmaster would have the slightest disposition to try it. On the other hand, injury has been done to business; men have been sacrificed to diseases which derive their baneful effect from dry-grounding articles made from this cast-iron; our trading with other countries has been suspected of dishonesty, or our capabilities have been questioned to manufacture superior articles to our foreign competitors. In a remunerative degree nobody ever derived any benefit from this discovery, which the writer of the article in the *Birmingham Journal* imputes to "ignorance and prejudice," which "time is to correct." Having tried these articles produced by Mr. Lucas, when the patent was pushed, and had gained all the success it could ever aspire to, I witnessed a public injury without a personal benefit. Lucas gained nothing by it, and no person in Sheffield or Birmingham can be singular out who has even realised a decent livelihood by their labour in pursuit of this kind of manufacture. It is certainly to be hoped that now we are making good iron and cheap steel, we shall hear no more of such improvements as those included in the patent of Mr. Lucas. London, May 11.

JOHN BENNETT.

MANUFACTURE OF IRON.

SIR.—In his paper, read before the Society of Arts, Mr. Sanderson says, with reference to the direct conversion of pig-iron into malleable iron or steel without the puddling furnace or charcoal refinery, that it is his opinion "that neither practically useful malleable iron nor cast-steel could be produced direct from the pig-iron," and continues that "when it was found that the decarbonised pig-iron resulting from the process of blowing a strong blast of air into a body of fluid iron would not roll nor draw under the hammer, Mr. R. Musset patented several processes with a view of rendering this product malleable; manganese, mixed with carbonaceous matter, is suggested by him as a means of obtaining malleability," and "professes to change a brittle metal into one capable of being rolled or hammered, hardened and tempered." Again, "as regards all steel produced by the decomposition of crude iron—if we examine the peculiar state of this metal it will be found that the mass is composed of atoms irregularly carbonised and impure." In reply to the remarks made in the course of the discussion, he says that according to his process "the fluid metal is drawn from the blast furnace into the refinery, which is simply a receptacle, not heated any higher than that of the ordinary puddling furnace." Any reagent which in its decomposition gives out oxygen is added, which, combining with the carbon eliminated from the iron, forms carbonic oxide. This immediately reduces all the metalloids and unreduceable matter entirely, liberating all deleterious matter contained in the iron, thereby producing a highly decarbonised, clean, crystallised metal."

Before proceeding further, I will trouble Mr. Sanderson to state through your Journal whether the following questions are answered correctly or incorrectly:—Is the process of Mr. Sanderson a chemical or mechanical one?—It is both; the principles of chemistry having been applied to the improvement of the ordinary practical mode of operation. Does Mr. Sanderson propose to purify the iron by forming carbonic oxide in his receptacle, and thereby reducing all metalloids and unreduceable matter?—Yes. Is Mr. Sanderson thus enabled to liberate the deleterious matter contained in the iron, and does he thereby produce a useful crystallised metal?—Yes. For the present I shall assume that I have answered the questions correctly, and will endeavour to prove that Mr. Sanderson's process has not the merits he claims for it. That the principle of improving upon the existing purely mechanical system, by ascertaining what chemical changes take place during such mechanical operations, and bringing chemical knowledge to the aid of the iron and steel maker, no one will doubt. I will, therefore, assume that the answer to the first question is entirely in Mr. Sanderson's favour, but the other two questions are open to some objections.

Were I to assume that the production of carbonic oxide is unnecessary, I should be compelled to conclude that Mr. Sanderson's process is useless; I shall, therefore, assume the opposite, and moreover admit, for the present at least, that he is really enabled to do what he states he can, which reduces the whole question to the consideration of the best means of producing the carbonic oxide in the receptacle. The cheapest oxygen-yielding materials are undoubtedly air and water, and there is, therefore, no just cause for speaking against Bessemer, Musset, Uehlin, or the patentees of similar processes, since, if Mr. Sanderson's theory be correct, it could be easily carried out by either of those gentlemen, as the oxygen in the air forced in, or in the water into which the molten metal is thrown, would combine "with the carbon eliminated from the iron" quite as readily as any reagent which Mr. Sanderson could introduce.

So many propositions have been made and patented that I am sure I may be allowed to offer a suggestion, which being founded on practical experiences, combined with some little chemical research, may be worthy the adoption of ironmasters, to whom it is offered *gratis*; the only return I ask being that in the event of its proving successful on the large scale those using it will state the fact in the *Mining Journal*. When the blast furnace is ready to tap, instead of making pigs let the metal be granulated by running it into water. With the exception of the very small granules, each will be found hollow, and may be easily broken. Let the whole be crushed or pulverised, care being taken that no foreign matter be mixed with the granules during the crushing operation. Then let the whole be submitted to the ordinary treatment in the puddling furnace or in the crucible, according as iron or cast-steel may be required, and a very excellent metal will be the result. Upon this process there will be no royalty; the cost of refining (for the granulation refines beautifully) the metal is *nil*, the pulverising inexpensive, whilst it materially assists in obtaining a regular quality of metal; and no addition is made to the expense of treating in the puddling furnace or in the crucible.

EISENSTEIN.

DIRECT RAILROAD FROM LONDON TO CALCUTTA.

TO HER MAJESTY'S PRINCIPAL SECRETARY OF STATE FOR FOREIGN AFFAIRS.

MY LORD,—Now that there is so much said and written about the Suez Canal, and as the English Government has been repeatedly called upon to aid in the undertaking, I wish to lay before your lordship some considerations which it would be well to take seriously into account before laying out eight millions of public money, especially as the canal might be filled in again with sand swept across the desert by the sirocco, which is quite as ready as any reagent which Mr. Sanderson could introduce.

In former times, when the rate of water transit greatly exceeded the speed of journeys by land, it was an advantage to connect tracts of water by canals; now, however, things are altogether changed since the introduction of railroads, and every mile of a route that can be travelled by land may be got over in less than a quarter of the time that it would take to traverse the like distance by sea. From this it will be seen that a great *detour* may even be made in land, and still the time required to perform a given journey be less than following the direct route by water; how much more advantageous, then, must it be to take the direct course by an uninterrupted railroad, in preference to going a long way round in vessels. And here I would draw attention to the fact that all the plans yet proposed for shortening the route to India are behind the age.

In a few years the coasts of England and France will be united by rail, either by a tunnel under the bed of the Channel, by a viaduct of new construction, spanning the Channel itself on mules; or, what would be better, by a hollow iron passage laid on the surface of the ground under water, like the submarine telegraphic wires, and this latter plan could be easily and economically carried into effect.

In the event of such a railroad being established, the whole of the East is capable of being connected with England by land. Railway communication is already established (with the exception of a bridge over the Rhine to unite France and Germany) from Calais to the valley of the Danube; and what is now required is to continue that line from near Donauworth to Vienna, along the banks of the Danube, and continuing the same valley as far as practicable to prolong the railroad by the shortest and best route to Con-

stantinople. There the narrow channel which separates the capital of Turkey from the main land of the Asiatic continent might be crossed in the manner I have proposed for the communication between the neighbouring shores of the British Channel. From thence the shortest practicable route should be taken to reach the Persian Gulf, after which the line should skirt the shores of that bay, and then follow part of the coast of the Indian Ocean, and thus proceed by the valley of the Indus into the heart of India.

This would be a real "overland route," one which must be carried out at no distant period, and which would be of incalculable advantage to our great Indian empire, as well as to England and to the world; and I would at once put my project into execution if I could obtain a concession for the line, guaranteed by England in concert with the other great powers interested. I am convinced that such a work of public utility would yield an immense return on money invested; and on such conditions I am ready to undertake the completion of a through railway communication direct from London to Calcutta, and to find all the capital for the same.

Science is always progressing, ingenuity is constantly at work, and in modern engineering there is no obstacle however great that may not be overcome by time and money, and the very fact of having such an object in view would lead to new inventions more wonderful than any of the *new Erfindungen* we have yet seen, but which would suggest themselves as naturally on emergency as the *Britannia Tube*, the *Crystal Palace*, or the *Submerged Cable*.

Trusting that your lordship will see the high importance of this suggestion, and the interest that the British Government would have in its accomplishment, and at the same time, as an engineer, assuring your lordship that, extraordinary as is the project, it is eminently practicable, and in the hope that you will, therefore, bring your powerful aid to bear so as to enable me to achieve so gigantic and so useful an object, both by explaining my views to the Cabinet, of which your lordship is so distinguished a member, and in persuading foreign Governments to join in adopting my plan, and likewise in inserting clauses in any treaty that might be made hereafter with Persia, so as to facilitate this great purpose.

I have the honour to be, my Lord, your Lordship's most obedient servant,

W. H. VILLIERS SANKEY, C.E.

MAIN DRAINAGE OF THE METROPOLIS.

SIR,—As you did me the favour of inserting my last communication upon this subject, and the purification of the river Thames, which are now occupying the attention of a select committee of the House of Commons, you will confer an additional favour by the insertion in your next Journal of the enclosed modification of my former plan for effecting these and other objects, as well as of my formerly published ideas in reference to collecting, deodorising, and utilising all the excrementitious portions of London sewage, to save the necessity of its being allowed to enter and contaminate the ordinary sewers, the water of the river Thames, or the metropolitan atmosphere, for the carrying out of which several objects I now propose the following mode of proceeding:—To form a wide, substantial weir across the Thames, in connection with the piers, piles, and foundations of the present old bridge at Battersea, without disturbing any portion of the present structure; and, but on the contrary, adding greatly to its strength and stability in every respect, and rendering it quite equal to the traffic for it for many years to come; paper locks and staves being formed in such weirs, for the passage of vessels underneath the bridge, and for raising and maintaining a powerful head of pure, fresh water above it, for affording an abundant supply of that indispensable article to the several water-works, and thereby to the inhabitants of London on both sides of the river, as well as constant streams through the numerous sewers; and also a constant, copious, and powerful stream of water into the central channel of the river below, under low water level, through suitable stop-gates or sluices, formed in such weirs; which central channel should be deepened, and carried under the central arches of the several bridges, and as far beyond them in the direction of the sea as may be necessary for effecting the objects hereafter stated, and as deep as may be found consistent with the safety of the Thames Tunnel, at Rotherhithe. The bed of which channel might be consolidated, and rendered of uniform descent by the precipitation thereon of ballast, or other heavy materials; and for the purpose of regulating in some measure the general depth of the river between the bridges, and particularly of the central channel of the river before mentioned, and for strengthening and shielding in a greater degree than at present their piers and foundations from the action of the tides and currents of the river, I should recommend the formation of centrally sloping platforms of piles, and masonry attached thereto, for connecting the whole together under the several arches, through which platforms, immediately under the central arches, short tunnels, or inverted arches, should be formed in unison with and so as to form part of the central channel of the river, into which all the sewage of the metropolis should be made to pass from the outlets of the various sewers, which should be extended a sufficient distance under low-water level, to prevent any exhalations into the atmosphere from the sewage so passing through them; and along which central channel the sewage would then be rapidly propelled, in the direction of the sea, by the powerful stream of water issuing thereto through the stop gates, or sluices, in the weirs at Battersea. In addition to which I should recommend, if necessary, the introduction of other powerful streams of water into the same channel at intervals, say of one mile, from reservoirs formed near the banks of the river, with proper openings and self-acting apparatus for freely admitting the tidal water during its flow, and for discharging it during its ebb and flow, at such periods as might tend, in conjunction with the gravitation power of the sewage itself, to produce in the most perfect manner an uniform and constant *undercurrent* thereof in the direction of the sea, and to a sufficient distance to prevent its return, notwithstanding the tide might be daily flowing over it in an opposite direction, and at such a depth below the surface as should prevent its disturbance by the paddle-wheels of steam-boats, or also any injurious exhalations therefrom into the atmosphere. By means of which several appliances and forces combined, together with the effect that would be produced by the constant flow of so large a body of water over the weirs at Battersea, as proposed, I have no doubt that the Thames would speedily be some purified, and the sewage of the metropolis speedily conveyed into the open sea, at very moderate outlay.

But to render this sanitary measure still more complete, I should strongly recommend the following means of collecting, deodorising, and utilising all the excrementitious portion of London sewage, which, it is well known, constitutes, when properly applied, one of the most powerful fertilisers of the soil; but, when exhaled into the air we breathe, one of the chief causes of disease and death. By dividing the whole of London and its environs into districts, of such areas as might suit the varied contour of the surface, and other local conditions, then in each of these several districts to form a properly enclosed station—say, about one quarter of an acre in extent—in the centre of each of which district stations to have constructed a covered pit, or cesspool, of sufficient capacity and depth to receive all the excrementitious sewage of the district, as produced and passing into it from any number, as required, of small deep-set sewers, composed of internally glazed bricks and cement, or of stoneware drain-pipes, laid at suitable slopes for facilitating the flow of sewage through them, and which might generally be located at the rear of dwelling-houses, and into which sewers and pipes all latrines should be made to discharge through properly trapped pipes of small dimensions, out of which pits or cesspools the sewage might be pumped, and forced through perfectly air-tight pipes, by steam or other power, without creating the slightest nuisance, into other cesspools at the outskirts of London, and thence for immediate use into the neighbouring agricultural districts, or might otherwise be there deposited, dried, and solidified, and made into a very superior gas for supplying the gasometers of the present metropolitan gasworks, thereby saving a large expense for coals and the nuisance arising from its present manufacture in crowded neighbourhoods, leaving its abundant produce of carbonated ammonia for the manufacture of British guano, and its cumulative carbonaceous residue as the future deodorising agent, for all such excrementitious matters and the surplus for many other useful purposes; the profits arising from which manufactures, taken together, would, in my humble opinion, pay a liberal interest upon all the capital required for carrying out this latter sanitary measure, without necessarily procrastinating in any way the former, with the advantage also, which is not to be overlooked, of affording, for a considerable time to come, particularly if adopted in other large towns, remunerative employment to our present deeply distressed labouring population.

W. H. JAMES, C

nearly to its source, then ascend to the left to the summit of the mountain range before mentioned, and after following along this ridge some 12 miles, or perhaps 15 miles, turn abruptly down the mountain side nearly two miles to the left; here is found the quicksilver on the slope looking toward the San Joaquin valley. Travelling along the ridge several miles after leaving the San Benito Creek, one comes abruptly to a talcose formation (talcose slate), in most places broken and desolate, and sparkling and brilliant in the sun's rays reflected from the scales and fragments of talcose rock. This talcose slate is of a variety of colours, yellow, red, blue green, and almost black. In this formation are found blue, black or green boulder-like rocks, isolated apparently, as though concretions or segregations in the midst of the principal formation. This black rock is very heavy, and beautifully painted with green, and is composed of chrome and iron. A company was formed to work this rock by a number of persons who supposed that it was an ore of silver, and who did not find out their mistake until they had spent a large sum in various ways. The rock which contains the cinabarin appears to be a channel of metamorphic rock running through the talcose formation, and emerging from it in various places. An examination will show the nature and character of the formation which contains the cinabarin; but the ore is, as might be expected, much richer in some places than in others. The ore is apparently inexhaustible, and no doubt if vigorously worked the Aurora Quicksilver Mine would be long term a smiling countenance on her venerable mother and her younger sister, the Old and the New Almaden. I may add that we have 16 furnaces in full operation at the New Almaden Mine.

New Almaden Mine, April 6, 1858.

THOMAS FAUL.

QUARTZ MINING IN CALIFORNIA.

SIR.—Since the discovery of gold in California the attention of miners has been more or less directed to quartz mining, which, in the future history of California, will undoubtedly prove the most permanent and productive. It is my opinion that this branch of mining is but yet in its infancy, and the time is not far distant when capitalists will be induced to develop the hidden riches of these veins both with system and prudence. It has been frequently stated that quartz veins generally are not sufficiently auriferous to remunerate only at a certain depth. This theory may be correct in certain instances, but I think it unreasonable to suppose that veins containing rich deposits within a few feet of the surface, should be considered worthless, because gold is not found in the immediate rock beneath. I am of opinion that, in order to discover richer deposits than those nearer the surface, nothing is required but system and perseverance. The following from the *Sonoma Democrat*, Tuolumne county, has just arrested my attention:—

"The old Almaden lead which has yielded so immensely for the last year bids fair to surpass anything heretofore found. On Saturday, Feb. 13, they took out about \$15,000 (30000.) and have taken out a large amount since. This deposit is at the depth of 60 ft., and is deeper than any shaft ever before sunk in this famous locality. They intend to continue to the depth of 100 ft. or more, as it is a supposition with them that at intervals of 30 ft. in depth rich deposits are found."

It may be asked, why have not the majority of these veins that have been wrought extensively been sufficiently auriferous to remunerate those who have invested their capital in exploring them at a greater depth? I answer, the reasons are various, but not without remedy. We repeatedly hear that the rock of certain veins will pay so much per ton, which amount is often great but yet not productive enough to defray the expenses. Where, then, is the error? I answer, and without fear of contradiction, that the chief errors are in those who are placed as superintendents, treasurers, &c., and also in the machinery erected for the purpose of separating the gold from the rock. Those entrusted with their employers' property almost invariably forget their duty, and instead of prosecuting those things committed to their care in a faithful and conscientious manner, they are found neglecting their duty, and wasting their masters' substance "in riotous living." With respect to the imperfection of the machinery used for separating and saving the gold, I will merely state that it is scarcely a machine in operation in the gold region of this state but what loses quite a per centage of the precious metal. I would attempt to point out various imperfections, but I presume attention has often been called to these from the pens of scientific persons.

If my remarks attract the attention and consideration of any who are disposed to speculate in quartz mining here, or any other portion of the globe, my sole aim will be accomplished.—San Francisco, March 30.

A CORNISH MINER.

ST. JOHN DEL REY MINING COMPANY.

SIR.—Many of your readers will look to your Journal of this day, expecting to find there an account of what was really done at the "adjourned meeting," on Tuesday, on the result of which their interests might be much affected.

I will state the result as shortly as I can. The directors stated that those even who could not, by their own regulations, vote at the "general meeting," had still the right to vote at this "adjourned meeting." This, I believe, to be a mode of proceeding without precedent! However, the shareholders need be under no apprehension, for the regulations for the future management of the company "remain as amended by myself and friends at the original meeting, excepting in one particular—that the directors got the 5000. per annum for their services put again to the sun they wished, 5000. per annum, with a managing director, who is to be paid separately such amount as they may decide upon. This involves a few hundreds a year, and is of little moment compared with the other amendments. I cannot, in fairness, close this without stating that one director, Mr. Bosworth, stated most emphatically his approval of all our "amendments." T. S. RICHARDS.

City, May 13.

SAMPLERS' FEES, AND TICKETING EXPENSES.

SIR.—I fear you have left the subject of samplers' fees and ticketing expenses to slumber until it has fallen again into its former lethargy. I really was in hopes the western miners were in good earnest, when I saw by your West Cornwall Correspondent's remarks some of the more influential amongst them were stirring in the matter; now, however, I confess I begin to fear Corribal spirit will not carry out those endeavours, though they be so manifestly for their good: it must be done by the determined energy of shareholders non-resident; it concerns them, perhaps, more seriously, as they are the parties plundered. Almost every Cornish cousin is so linked up with the samplers, smelters, &c., that he dare not, for fear or for interest, act; those samplers surely are not so powerful an hierarchy as to swamp all the mining interest, resident and non-resident, though they do hold their heddonball dinners on Wednesdays to concert measures.

I hope, Sir, I may not appeal in vain to adventurers out of the county, if you have to those in it, to protect their own properties: it behoves them to do so, or not complain. I am now on a mine that ought to sample more frequently than it does, but the committee hold back, to great inconvenience, the 5s. 5s. visits for sampling and weighing claim; as on small parcels they become a matter of consequence, besides the dinners, &c.

I wish them at once to send their ones to Swansons, but they fear the frowns of the samplers, who may retaliate. Two or three neighbouring mines are no better off; but, being all young and straggling concerns, this oppression chokes them. I ask you, Sir, to insert this letter that out adventurers may, at their own risk, take into consideration the case of mines like these. Let them consult their own cost-sheets for evidence—let them see what is paid for every sale—let them examine what it amounts to when the agent's travelling expenses are added, as well as his loss of time in going to and from ticketing, and let them also ask the differences in returning charges at Swansons and Cornwall, and I think their eyes will be opened.

AN EASTERN AGENT.

Launceston, May 10.

Meetings of Mining Companies.

THE ROSEWARNE CONSOLS MINING COMPANY.

The ordinary general meeting of shareholders was held at the offices of the company, Cannon House, Queen-street, on Monday.—Mr. JAMES ROBERTSON in the chair.

After the usual preliminary proceedings, the SECRETARY (Mr. Alfred Jeffree) read the following reports, from Capt. Jas. Pope and Capt. Jas. Richards:—

Agreeable to your request, I have carefully inspected this mine, and make the following remarks:—The engine-shaft is below the 20 about 9 fms.; lode at present split, but the ground appears more favourable, being highly mineralised, and I have no doubt will change for the better shortly. The 20, west of engine-shaft, about 22 fathoms, at present split, but has passed through several fathoms of ore ground, which will be taken away on tribute when properly ventilated. The 20, east of engine-shaft, about 15 fms., which has passed through about 10 fms. of good ore ground, but the last 5 fms. ground disordered, and lode at present poor. The 10, west of engine-shaft, about 31 fms.; lode 1 foot wide, producing stones of ore. The 10, east of engine-shaft, about 24 fms., which has passed through several fathoms of ore ground, but at present poor. I should recommend further operations, as follows:—That the engine-shaft be sunk 12 fms. below the 20, which will take about a fortnight from this time to accomplish. The ground in the present bottom appears very congenial for copper, in a beautiful killas, with drops falling in from the south, which often improve its value. Also, to drive the 20 west, and sink the present 15 fms. below the 10, for the purpose of ventilation; and drive the adit level north from the engine-shaft, to intersect the two branches which will come below the present workings about 10 fms., when you can work regularly, and I have no doubt raise tin sufficient to pay the expense on that part, and assist in carrying on the operations in other parts of the mine. As regards the south, or caunter lode, I think the best to be done is to sink the flat-rod shaft below adit as fast as possible, and suspend all other operations until the lode can be seen at a deeper level, which I have no doubt, if properly explored, will prove productive. It should be borne in mind that all the tribute ground be set as fast as properly can be done, which will be a great assistance in carrying out the working of the mine.—JAMES POPE.

The engine-shaft is down 9 fathoms under the bottom of the 20 from the bottom of the shaft; it is from 4 to 5 ft. wide, and for the last 5 fms. sinking the lode is poor. The 20, west of engine-shaft, is driven 22 fms., lode averaging 2 ft. wide: the lode in the present end is divided in two parts, with a lode on the south 5 in. wide; the north is 20 inches wide, with a little ore, but not enough to value. The 20, east of the said shaft, is driven 15 fms., of which 10 were ore, the last 5 fms. being disordered. The 10 west is driven 31 fms., the lode averaging 20 in. wide. The east level has been suspended for the last six weeks. We have sunk two winzes from the 10 to the 20, and this ground is working on tribute. In our western end we are driving a cross-cut north of the engine lode. In the adit level we have driven 3 fms. This week we have discovered another east and west lode crossing the caunter lode, sinking under the adit level, where those two lodes will form a junction. We may expect some favourable results at this point. The water is falling back from the shaft on the 10 lode 9 in. in every 24 hours, and I hope the men will be able to resume their places in three weeks from this time; and I have a good opinion that we shall raise a good deal of tin on the branches this summer. To-day we have sampled our tin-stuff, and we shall sell it on Saturday next.—JAS. RICHARDS.

The CHAIRMAN observed that, previous to moving the adoption of the report, it would probably be as well that the accounts should be read.

The following is the statement of accounts for three months, ending March:—

Balance from last audit	£ 980 0 9
Costs and merchants' bills, three months	1004 19 2 = £1984 19 11
Call of 2s. per share	£609 12 0
Less not received	195 0 0 = £ 214 12 0
Arrears received	502 0 0
Copper ore sold, 54 tons 7 cwt. 2 qrs.	175 5 2 = 891 19 2
Balance against mine	£1093 2 9

The balance of liabilities over assets is £117. 2s. 6d.

The CHAIRMAN said it appeared that if all the calls were paid they would be in a good position. He should like to be informed what means were being taken to enforce payment of arrears?

Mr. JEFFREY said that a number of the shareholders were in the Stannaries Court; from others he had received promises to pay; and from one large defaulter there was every

security that by the end of July all the outstanding claims on that account would be paid.

Mr. LANTON stated he was interested in Rosewarne; he had heard a good account of it, and had great faith in Capt. Pope's opinion. He was much gratified at what he had seen there that day, and was of opinion that if those workings were carried on in a spirited manner there would be a good mine.

The CHAIRMAN said he perceived that a creditor had sued a shareholder who was not in arrears of call; he thought this most unfair, and deserved the severest reprobation.

A PROPRIETOR observed that such conduct was calculated to do much injury to mining, as it would tend to keep people from embarking in it.

The report and accounts were then passed.

Mr. WILSON said it appeared to him that they had a good mine; he was glad to hear it well spoken of by Mr. Lantony. According to Capt. Richards's account, the ores they were raising would go somewhat towards the cost; he should, therefore, propose that a small call of 2s. per share be made.—This was seconded and carried unanimously.

It was resolved that the salary of the resident agent, Capt. J. Richards, and that of the pursuer, Mr. W. Page Cardozo, should be augmented.

Messrs. T. Boorman, J. Robertson, and E. J. Wilson were elected a committee of management.

THE OOLA MINING COMPANY.

The ordinary general meeting of shareholders was held at the offices of the company, Cannon House, Queen-street, on Monday.—Mr. C. SMITH in the chair.

The SECRETARY (Mr. Jeffree) read the notice convening the meeting.

The following report, from Capt. J. B. Champion, was then read:—

Since the last meeting of adventurers, held in February, the engine-shaft has been sunk 3 fms. 1 ft., divided, cased, and completed for sinking to another level. The ground in the bottom is composed of elvan, and on the south there is a copper lode from 1 to 1½ ft. wide, composed of gossan, spar, and spots of yellow ore. In order to unwater the east shaft, I have set the 20 to drive east by eight men, 4 fms. stent, at 5 ft. per fm., out of which they have driven 8 ft., and in about five weeks the end will be under the east shaft, when I anticipate good results; this level will be 7 or 8 fms. below the level driven east from east shaft, when, according to information, and from the kindly appearance at the upper level, we may expect good returns of ore. The lode in the bottom of the slopes, west of engine-shaft, is 3½ ft. wide, composed of flookan, spar, stones of lead, and copper ore; and as the slopes are down to the bottom of the winze, I deem it advisable to suspend the stopping until the 20 is under, when we can stop the lode for half the expense; and in the meantime I will get the ore broken fit for sale, and expect on Saturday next to have about 1000 ft. worth of ore for market. Now the engine reservoir is enlarged and staunch, the dressing-rooms extended for dressing the slimes, and the mine going into a regular working order, as soon as we intersect the lodes and get backs for stopping. I anticipate we shall make good returns of lead and copper ore.

The CHAIRMAN observed that, previous to moving the adoption of the report, if there were any observations that any of the gentlemen concerned were pleased to make he should be happy to hear them.

Mr. PALMER observed there was one thing which was most important, that being the necessity of keeping the workmen regularly paid.

The CHAIRMAN observed that he had written for information to the mine, and had been informed that instructions had been given to the agent not to communicate with any one but the committee.

Mr. PALMER thought that such a clause as this was merely levelled against himself and Mr. Boorman, as being two of the largest shareholders.

Mr. GLANVILLE stated that Mr. Palmer was the landlord of the property, and had, therefore, a perfect right at any time he thought fit to go down and inspect it.

Mr. PALMER said that he was the landlord he was perfectly well aware; he did not, however, wish to exercise his right in that capacity; what he required was this—that as a shareholder he should receive any information he might require; he could get it if he went to Oola; but, the anomaly was, if he wrote from Dublin the captain was precluded from answering him.

Mr. BOORMAN said the committee themselves received very little information from Capt. Champion, and it was to be desired that he would communicate with them often.

Mr. E. J. WILSON thought it would be injudicious if the agent were allowed to correspond with every shareholder who might think it necessary to write to him; in fact, if such a principle were carried out, it would probably occupy the whole of his time.

Mr. GLANVILLE drew attention to the fact that if such were allowed as a precedent, when the shares came into the market it would afford a large field for undue and unfair speculation; in fact, those having the earliest information would always be able to fore-stall the honest shareholders.

Mr. PALMER stated, if the resolution were rescinded, it would not be necessary or compulsory if the captain received letters that he should answer every one of them; he merely required that he should be free so to do.

After some discussion, it was resolved that the resolution should be rescinded, and that the captain be allowed to communicate individually with any director.

The report was then adopted, and the following accounts submitted:—

Balance from last audit	£361 16 2
Cost and merchants' bills	325 15 8
J. G. Glanville, crushing rolls	10 2 6
Secretary's salary	16 16 0
S. P. Cock, for Lewis, and bankers' charges	7 8 3 = £721 18 7
Call of 4s. on 3270 shares	£654 0 0
Less not received	201 0 0 = £453 0 0
Arrears received	236 19 0 = 689 19 0
Balance against mine	£ 31 19 7

The balance of assets over liabilities is £98. 1s. 3d.

Mr. PALMER said that although, according to the report of Capt. Champion, they were raising ores, and would soon have some at market, yet it was requisite that a further sum should be subscribed, for the purpose of carrying on the mine and paying the labourers; he should, therefore, propose that a call of 2s. per share be made, payable on May 24.

Mr. WILSON should feel great pleasure in seconding this. He trusted that now they were about to make returns the necessity for further calls would be obviated.

Mr. BOORMAN stated he had carefully perused the accounts, which were all in perfect order. They had not, however, received some vouchers from Capt. Champion, which they had written for.

It was then resolved that legal proceedings should be taken against defaulting parties.

Messrs. Palmer, G. F. Eland, T. Boorman, C. Smith, and E. J. Wilson were elected a committee of management.

A vote of thanks was given to the Chairman, which terminated the proceedings.

NORTH WHEAL ROBERT MINING COMPANY.

The general meeting of adventurers was held at the offices of the company, Bishops-gate-street, on Tuesday.—Mr. MICHAEL HALE in the chair.

Mr. MURCHISON read the notice convening the meeting, and the minutes of the last, which were confirmed.—The report of Capt. Richards was read, as follows:—

May 8.—After a careful survey of the mine throughout, I beg to hand you my report for the meeting to be held on Tuesday next.—Murchison's Engine Shaft: In the 62 fm. level west the lode has, during the past quarter, been of good size, 2½ ft. and 3 ft. wide, composed of capel, mundic, quartz, flookan, and occasionally good streaks of rich quality ore. The lode in the present end is 2½ ft. wide, of precisely the same character; this end is now fast approaching the ore ground in the level above, and within about 24 fms. of the cross-course. In the 52 fm. level west the lode, for 10 fms. in extent, has been large, 3, 4, and 5 ft. wide, and proved more or less productive, being worth ½, 1, and 2 tons of ore per fm. The north portion of the lode is at present being carried, the ground being easy, and our object being to get to the east of the cross-course, a few feet ahead, as will be seen on reference to the plan. On passing the cross-course, the south part of the lode will be seen by cross-cuts, and one or more rises will be put up for the proper laying open of the ground, as well as for ventilation. In the 42 fm. level west for the last 12 fms., the lode has proved to be 2, 3, and 5 ft. wide, composed of quartz, mundic, flookan, and ore, worth 1, 2, and 3 tons per fathom; the lode in the present end is unproductive, but promising. The lode in the 30 fm. level west has also proved productive from the cross-course to within 6 feet of the present end (17 fathoms), producing 1 ft. 2 in. and 3 tons per fathom; in the present end it is 3 ft. wide, composed of quartz, mundic, flookan, and a little ore. In the bottom of this level, about 13 fms. behind the present end, a winze has been sunk and communicated with the 42 fm. level below; the first for the first 6 fathoms proved to be 4 ft. wide

FOREIGN MINES.

ST. JOHN DEL REY COMPANY (LIMITED).—Advices from Brazil:—			
<i>Morro Velho, March 15.</i> —The produce for Feb. is 23,846 oits.—239,088 lbs. troy, and is thus derived:—			
From general stamps	Oits.	Tons stone.	Oits. per ton.
Addison (Bahu siome)	13,831	from 3912-2 = 3,529	
" Lyon (W. & mid. cash.)	4,384	1149-6 = 3,813	3,234
" Susanna (Gambia)	3,067	1470-4 = 2,059	
" Arrastras	546	215-2 = 2,537	
" Praia	1,316	—	0-194
Total	23,846	6754-4	3,428
The produce for February, 23,846 oits. (less duty, 2 per cent., 477 oits.) = 23,369 oitavas, at 7s. 8d. per oit. £958 2 4		£958 2 4	
The cost for Jan., rs. 68,768 224, at 2s. 2d.		7520 1 11	
Profit	£1438 0 5		

This produce is better than that for Jan., being for 28 days against 31 in. Jan.

THE ALTEN MINING ASSOCIATION have advices to April 24:—

RAIFAS: In the winze under the shallow level the lode is not so large as before, but the quality of the ore is equally good, and appearances are encouraging; a slight deterioration has also lately taken place in some of the other shallow workings; we expect, however, these changes will only be temporary, and when the exploratory levels now in course of driving are a little further advanced we fully calculate on opening out sufficient

area to meet the late falling off.

OLD MINE:—Shortly after our last the communication between Nos. 1 and 2 winzes was affected; the ventilation is now very good, and the force relieved from the above work have since been employed stonning on the north side of the level, driven westerly from the No. 1 winze, where the prospects are encouraging; the lode is from 5 to 7 feet wide, and turns out about 3 tons of ore per fm.

In the stopes opposite the lode varies from 3½ to 7½ ft. in width, and yields about 4 tons of ore per fm. In the level westerly the hanging wall of the lode has taken a more vertical direction than usual, which has greatly diminished the size of the lode, it is now about 3 ft. wide, yielding some good grey work, and we hope soon to see it open to its usual size again. In the south part of these workings (No. 1) the lode is still large, being from 8 to 9 ft. wide, composed chiefly of quartz, with good patches of ore scattered throughout the whole width; having abundant room immediately behind this stop, we are stonning all the worthless part, and only bring to surface such as will pay for dressing, &c. In the shallow level west we are still following the cross-course, which greatly facilitates the driving; another small-cross has been met with in the level northerly, which heaved the lode about 4 ft. to either side; we are not through the lode on the opposite side, and are, therefore, unable to state its size.

WOODFALL'S:—In the pitches under the 40 the lode continues from 2½ to 3 feet wide, yielding good quality ore throughout, and looks encouraging.

MICHELL'S:—Branches of quartz spotted with ore are still being met with in the level under the lobby, one of which has continued for the last 4 or 5 ft., and shown ore most of the distance, we, however, propose suspending this bargain shortly if nothing more important be met with. The pitches on the north lode are yielding ore of a very good quality, and in a place or two the prospects are very encouraging.

THOMAS'S:—In the bottom part of the working the ore is more collected, and, on the whole, the lode is somewhat improved, being from 1 to 1½ ft. wide, yielding 2½ and 3 tons of ore per fm.

The ground in the adit continues hard, but we have now six men employed to push it on as fast as possible.—C. TRELEAVE.

The FORTUNA COMPANY have advices from Mr. J. L. Thomas, dated Linares May 5.—**CANADA (ISCOA):** West of Engine-shaft: The lode in the 6th level, west of El Clavel, has been small and poor during the past month. In the 5th level, east of La Florida winze, the lode contains a little ore, but is not of commercial value. The 5th level, west of Buen Provecho winze, is being driven on a large lode, spotted with ore, but not to value. The lode in the 4th level, west of Kendall's winze, is at present poor. The lode in the 3d level, west of Romero's cross-cut, the end is letting down a good deal of water. The lode in the 2d level, west of O'Shea's shaft, is worth 1 ton per fm. In the 3d level, west of Romero's cross-cut, the lode is still large, being from 8 to 9 ft. wide, composed chiefly of quartz, with good patches of ore scattered throughout the whole width; having abundant room immediately behind this stop, we are stonning all the worthless part, and only bring to surface such as will pay for dressing, &c. In the shallow level west we are still following the cross-course, which greatly facilitates the driving; another small-cross has been met with in the level northerly, which heaved the lode about 4 ft. to either side; we are not through the lode on the opposite side, and are, therefore, unable to state its size.

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The ground in the adit continues hard, but we have now six men employed to push it on as fast as possible.—C. TRELEAVE.

The FORTUNA COMPANY have advices from Mr. J. L. Thomas, dated Linares May 5.—**West of Engine-shaft:** The ground in the 85, west of

cross-cut, is much the same as when last reported on. The lode in the 75, west of Cañillo's winze, has improved since last report. The lode in the 65, west of Cañillo's winze, is now worth 2½ ton of lead ore per fm.

The lode in the 41, east of Warne's shaft, is at present worth 1½ ton of lead ore per fm. but is looking more kindly, and likely to improve. In the 31, west of Diego's winze, the lode is worth 1½ ton per fm.

East of Engine-shaft: The lode in the 85, east of Cañillo's winze, is at present unproductive; it is letting down a good quantity of water. In the 75, east of Esperanza's, the lode, at the point of communication, was unproductive. The 5th level, west of La Esperanza, measured 4 ft. 3 in.

In the 4th level, east of Fortuna winze, the lode is poor and the ground hard. The lode in Garcia's winze is worth 1½ ton per fm. In the 3d level, east of Kennedy's shaft, the lode is also worth 1½ ton per fm. The lode in Thomas's winze is unproductive. In Lowndes' shaft, sinking below the 2d level, the ground is favourable; lode worth 1 ton per fm.

The value of the lode in the 2d level, east of Lowndes' shaft, is 1½ ton per fm., which is also the value of the lode in the 2d level west of Carro's winze.—**Low SALTER'S:** The 3d level, east of Pedro's winze, is now in the cross-course. The 3d level, east of Gabriel's shaft, is being driven on a level worth 1½ ton per fm. The lode in the 2d level, east of Colegan's winze, is on a level poor. Barrinuero's winze is worth ¾ ton of lead ore per fm. The lode in Morris's engine-shaft is split up into small branches, and is poor at present. In the 3d level, west of the sump-winze, the lode is worth ½ ton per fm. The pitches throughout the mines are yielding a fair quantity of ore. The dressing operations are going on with their accustomed regularity. We estimate our raisings for May at 225 tons.

The LINARES LEAD MINING COMPANY have advices from Mr. J. L. Thomas, dated Linares May 5.—**West of Engine-shaft:** The ground in the 85, west of

cross-cut, is much the same as when last reported on. The lode in the 75, west of Cañillo's winze, has improved since last report. The lode in the 65, west of Cañillo's winze, is now worth 2½ ton of lead ore per fm.

The lode in the 41, east of Warne's shaft, is at present worth 1½ ton of lead ore per fm. but is looking more kindly, and likely to improve. In the 31, west of Diego's winze, the lode is worth 1½ ton per fm.

East of Engine-shaft: The lode in the 85, east of Cañillo's winze, is at present unproductive; it is letting down a good quantity of water. In the 75, east of Esperanza's, the lode, at the point of communication, was unproductive. The 5th level, west of La Esperanza, measured 4 ft. 3 in.

In the 4th level, east of Fortuna winze, the lode is poor and the ground hard. The lode in Garcia's winze is worth 1½ ton per fm. In the 3d level, east of Kennedy's shaft, the lode is also worth 1½ ton per fm. The lode in Thomas's winze is unproductive. In Lowndes' shaft, sinking below the 2d level, the ground is favourable; lode worth 1 ton per fm.

The value of the lode in the 2d level, east of Lowndes' shaft, is 1½ ton per fm., which is also the value of the lode in the 2d level west of Carro's winze.—**Low SALTER'S:** The 3d level, east of Pedro's winze, is now in the cross-course. The 3d level, east of Gabriel's shaft, is being driven on a level worth 1½ ton per fm. The lode in the 2d level, east of Colegan's winze, is on a level poor. Barrinuero's winze is worth ¾ ton of lead ore per fm. The lode in Morris's engine-shaft is split up into small branches, and is poor at present. In the 3d level, west of the sump-winze, the lode is worth ½ ton per fm. The pitches throughout the mines are yielding a fair quantity of ore. The dressing operations are going on with their accustomed regularity. We estimate our raisings for May at 225 tons.

The ROLANDO SANTIAGO MINING COMPANY have advices to April 3:—

In the 32 fm. level, driving east from cross-cut, the lode is 2 ft. wide, composed of spar, white iron, mundic, and producing 1½ ton of copper ore per fm. In the 32, driving west from cross-cut, we have communicated to the 32, driving west from Taylor's, on the old lode. In the winze sinking below the 32, east of cross-cut, the lode is from 3 to 4 feet wide, producing from 2 to 3 tons of copper ore per fm. At New Isabella shaft, sinking below the 32, the ground is favourable for sinking. We have commenced to sink a winze west of cross-cut, below the 32; the lode is 2 ft. wide, producing 1½ ton of copper ore per fm. In the 22, driving east on new lode, the lode is small, composed of spar, with stones of copper ore. In the 22, driving east on New Isabella, the lode is 2 feet wide, composed of spar, with occasional stones of copper ore. In the 22, driving west from shaft, the lode is from 2 to 3 feet wide, composed of spar, peach, mundic, and stones of copper ore. In the winze sinking below the 22, at the point of the junction east of the shaft, the lode is 2 ft. 3 ft. wide, producing about 2 tons of copper ore per fm. In the slopes below the 22 the lode is 2 ft. wide, producing about 2 tons of copper ore per fm. In the 10, driving east from New Isabella shaft, the lode is small and poor at present. In the stopes in the back of the 10, east of New Isabella shaft, the lode is 2 ft. wide, composed of spar and mundic, and producing 2 tons of copper ore per fm. Since I wrote you last the plunger in Taylor's shaft has fallen under water, and we have had to drop a bit by the side of it, which is working very well and forked the water. Our raisings for the past month are 76 tons—dust, 63 tons; stone, 6 tons; ragging, 3 tons; and precipitate, 4 tons.—S. SIMMONS.

The raisings have been something less than February, but this must be attributed to the number of breakages and alterations we had to make and repair reducing the number of hands employed in breaking ore. By the verbal reports of Capts. Simmons and Trelawny, the winze below the 22 east is improving, and also the 32 east; this end is now getting near under the winze, and the same class of ore is in it as in the winze. This gives us good hope for the lode continuing in depth. As soon as this winze is holed to the 32 we shall have a good piece of ore ground to stop away.—S. B. MORRIS.

The WILDEBERG MINING COMPANY have advices to May 8:—Capt. Z. Walls reports that the quantity of ore sampled and sent to the smelting works for April was 152½ tons; also, that the miners have completed the tillage of their land, and are rapidly returning to the mine. The estimated quantity of ore to be raised for the present month is 180 tons. Mr. Gourdy states that the smelting operations are progressing satisfactorily, and that he hopes to produce from the present campaign 80 ton of metallic lead, with a proportionate quantity of silver. He has ready for sale about 8½ tons of copper regulus, averaging 18 per cent. of metal.

The AUSTRALIAN MINING COMPANY.—**Mr. Forster (Charlton, March 1),** states that the engine is at work, and that he has sunk 15 fms. from surface. The indications are fairly promising. The ground in the shaft contains branches of spar, occasionally interspersed with yellow ore and mundic; and the water in the shaft contains copper ore in solution. The *South Australian Register* of March 10, says "a new engine has been put up at this mine, and commenced working on the 15th ult., much to the satisfaction of the miners, and the admiration of other spectators. In five minutes' work 1 fm. of water had been pumped out. The miners give a very good account of the mine, and are now confidently looking forward to cut a good lode of copper ore."

The WORTHING MINING COMPANY (South Australia) have advices to March 8, of which the following is an extract:—**Brenner Mine:** There are six separate and distinct lodes that can be seen—Main lode, east lode, Boundy's lode, middle lode, junction lode, and one cross-lode, or rather south-east and north-west lode. On these lodes no less than ten shafts have been sunk, with one perpendicular off the lode, sunk as engine-shaft—five on the so-called main lode, with two tribute pitches. Hocking's shaft is sunk 10 fms. 0 ft. 6 in. in ore ground; speaking definitely, a good course of ore, raised in paying quantities the whole depth from surface, where the water prevented our following with the same degree of profit. The lode was never more productive of copper than in the present bottom of Hocking's shaft, having just sunk through a floor of mafic sulphur, mixed with some sugar-spar, about 2 feet wide. Five fms. from surface, previously to engine draining the water to its present depth, we had driven 10 fms. 3 ft. 3 in. on the course of the lode, 8 fms. of which being a good course of ore, leaving the ends north and south of shaft well worthy of further prosecution, and the shallow driving only prevented my doing so. This certainly is a most promising spot, and should be followed with energy in the fullest mining sense, otherwise the prospect of good mines in South Australia will be of no value. Lean's shaft sunk about 5 fms.; lode large, quartz mixed with spots and veins of grey ore. Bennett's shaft, sunk by last working 8 fms, from the free nature of the ground has fallen into a deep hole, and prevented my examining the same; but I am informed that the lode is promising. This shaft being sunk the greatest depth gives strong evidence in favour of its hidden prospects. Mason's shaft is being sunk by tributaries, and not a great distance from Sandy's pitch, where the lode has produced a large quantity of good ore, and is now at 10s. in 17. Tonkin's pitch, the northernmost working, sunk 3½ fms., where some 10 tons of ore have been raised; the lode at this depth small, and not without ore. To the north the north-east and south-west lodes cross, and the back of the 10 fm. level is now let on tribute at 5s. 6d. in 17'; from this place 14 tons of good ore have been raised during the month ending February 19. On Boundy's lode there are two shafts. Boundy's shaft is sunk 9 fms. 4 ft. 2 in. ground 14'; lode 5 ft. wide, yielding quartz, mixed with rich carbonates and grey ore. Winnin's pitch is about 4 fms. north of Boundy's, on the same lode; it is now sunk 8 fms, where they have a leader of

lode, like the main lode, has little or no underlie. The middle shaft, on the middle lode, is sunk about 8 fathoms; the lode is at present very large, and every indication of making a quantity of ore in depth, yielding strong iron gossan, mixed with carbonate of blue and green copper. The back of lode seen at surface, and the lode seen in the shaft, is not the same course; whether it be a heave from Boundy's lode, or whether two separate lodes, it remains for the present to be proved. After intersecting the main lode by cross-cut from Wotton's engine-shaft, driven south 9 fathoms 2 feet on the course of the lode, which is most regular and defined, not much ore, but malleable copper to be seen in small quantities almost throughout. The strata or country towards the junction lode mixed with black copperore. It appears to me to be at the level where the change has taken place through the interference of malleable. I have no doubt but depth only is required to rank the Brenner with the list of profitable names, I am now driving east from the main lode in the 12 to intersect the junction lode, which has taken an underlie to the east; after I purpose driving south under the whin shaft; by so doing I expect to cut the south-east and north-west lode. Even this will not be sufficient to expect the change in the main lode before spoken of, neither can we get deeper for want of pumping-gear and steam-power. The present engine, with the aid of the second boiler, 12-in. working and 13-in. pumps, would enable us to prove the Brenner Mine; according to its deserts, nothing less than a 60-in. cylinder should be immediately erected. Our present engine would come in well for whin or crusher; the latter would be most essential in adding to the profits of the Brenner whenever worked accordingly. There are three other lodes in the sett, known as the German's place, towards the western boundary, and judging from appearances, so far as can be seen, could be profitably and advantageously worked.

The WESTERN AFRICA MALACHITE COPPER MINES COMPANY have despatches from their agents at the Bembe Mines, March 18, when Capt. Bray and party had safely arrived at the mines, and would be at work in a few days. The *Cleopatra* steamer brings home 160 tons of malachite, worth about 8000/-, for the concessionaries, and there remain at the mines about 140 tons more belonging to them, which quantities were raised previous to Jan. 1 last, the time fixed for the company taking possession.

Mr. James Crofts sends us the following remarks:—

Events which bear collaterally on mining by the influence which they exercise over the speculative mind of the country, have not been abundant during the past week. We may, however, note that in the money market, and amongst bankers, there is an improved demand for discounts, which indicate, at least, that either trade or commerce is improving; whilst the accounts from the manufacturing districts are not yet of the most cheerful character. The uneasy position of the Ministry, shadowing forth, in fact, a dissolution of the present Parliament, is not an event to be desired at the present moment, however inevitable it may be. In the mean time, another small advance in the standard of copper ore (4s. 6d. per ton) is a favourable indication of the state of the metal market, and affects more immediately the interests of our clients and ourselves; and the more especially so, since by anticipation both copper, tin, and lead may be expected still further to improve in value. The share market has, on the whole, held its ground, alternating with very fair orders for stock; and it is noticeable that more in the usual proportion of these come from across the Tweed; but the market is still more in favour of buyers than sellers, which offers an excuse for our urging the loss of time in making investments in sound shares.

A meeting of the satisfactory character of Catherine and Jane shareholders was held on Tuesday last, at which some progress was made towards finally arranging the completion of the lease, which will exempt the company from dues on all ores for a period of ten years. The call lately made, it was reported, had been so far responded to by a majority of the shareholders. It had been previously decided to sell about 300 tons of iron ore, now broken or 40f. per fm. This lode has also been intersected about 7 fms. further east, and worth 45f. per fathom. The report concludes by stating that "these recent discoveries are likely to yield great quantities of copper ore," especially as they expect to meet with the same lode in the 180. The shares have sensibly improved in value, and a large business doing in them. Vale of Towy report is still of a more favourable character than its predecessor of last week, and indicates that the next sampling of ore will be, at least, 100 tons. The shares remain steady, but low in price, in comparison with their obviously intrinsic value. No capitalist can hold too many of them with a view to steady dividends. Calstock Consols would sell on Thursday 12 tons of copper ore, estimated to produce 9d. per ton; the last quarter's ore produced 6d. 14s. 1d. average per ton. These shares are very cheap. Lady Bertha are well supported, so far as the transactions on the market are an indication, but they do not improve in value; the public, however, should remember that for these shares not to undergo violent fluctuations would be a departure from their peculiar character, and thus we urge purchases at the low price, and sales at the moment, when a handsome profit has accrued, and judging from the past of the mine, the latter event is as certain as the former. In Wheal Edward, without any apparent cause, there has been a downward fluctuation, the weekly report containing nothing of a depressing tendency; they are likely, therefore, to rally considerably with an improved market. In East Wheal Russell an erroneous quotation of last week was too palpable to mislead; the shares have fluctuated since our last remarks between 6 and 6½, and are evidently in favour in the midst of a diversity of opinions as to their real value, which are led, or originated, in the case may be, by the interests of parties operating upon them, by which they have become a share better suited to the purposes of the jobber than the investor. Yarner is in demand at an advanced price of 22s. 6d. to 25s. This mine, if the elaborate reports from a certain quarter upon it are to be considered as perfectly disinterested, promises to take a fair position, and the parties reporting upon its prospects are both respectable and experienced. Of Creake it is reported that "there is no lode yet east of the cross-course." This, we think, must be a cause of disappointment to the shareholders.

There are sinister rumours from Cornwall in reference to the condition of the St. Day United Mine, and it is even intimated that at the next meeting a heavy call may be necessary to carry on the mine, which is one of great importance in the district. We need not anticipate the result of such a necessity, when, st. Day United ranks as a dividend mine, and diff. iately pay 1s. per share. There are sellers of the shares at 13s., fully 40 per cent. reduction in their value since the payment of the said dividend.

The advertising of mining shares at fixed prices has often been a subject of remark with the writer, and is a fair one for discussion. It has become now what the Americans call an "Institution," or, in other words, an integral part of mining business, but its legitimacy may still be called into question. Undoubtedly, every

west of shaft, is producing 15 cwt. of ore per fm. The lode in the stope over the same level, 25 fms. west of shaft, is 3 feet wide, yielding 8 cwt. of ore per fm. At the cross-cut north in the 20, 4 fms. east of Taylor's shaft, we have intersected the south part of a lode, but have not yet gone through it; we have cut into it about 1 foot, and the part we have seen is composed of spar, gossan, blende, and clay-slate, of rather a soft character, containing small particles of lead ore, but not to value; there is still a great deal of water coming out of the end; this end will still be pushed on northward for a few fms. further, in order to well prove that part of the ground, as we think the main part of the lode is still before us. The new axle of the pumping-wheel is working well, and the water is in fork, and the dressing, &c., is now again in full operation.

COLLACOMBE.—S. Mitchell, May 11: During the week the 84, west of Morris's engine-shaft, has been driven 2 fms.; the lode is highly promising, full 4 ft. wide, composed of quartz, prian, mundic, and copper ore. The rise in back of the 62, west of the western shaft, has been put up 4 ft., and the lode worth 12*t* ton of good ore per fm. There is no alteration to notice in any other part.

COLLEGE.—A. Brathwaite, T. Murray, May 10: In the run shaft we are down 6 ft.; the north end is looking pretty well, and will yield about 1 ton to the stithom. In the level driving north we are into the south end of the rise where the lead was worked upon at the time of the shaft closing; it is all run ground, but without lead at present. We propose fire-polling another fathom or two, with the view of meeting with the supposed pipe of lead; if not successful, we must secure the back of the present level, and work it from the bottom level. The sump is progressing favourably. We have hoisted into Cope-man's winze, and squaring it down through to the 20, for the purpose of a gangway and ventilation. We have delivered 3 tons of lead ore to Armagh this last week, and have 100 13 cwt. in store.

DALE.—R. Nixes, May 13: Our success in taking up the surface water on the Lum in the adit has exceeded our expectations; fully a fourth part of the water upon the engine has been diminished, and I expect that by going further a much larger quantity still will be prevented going down into the mine. We are raising lead for the sampling, but progress in this is hindered by what is of more immediate importance—that is, preparing to sink below the 37; we are nearly ready now to begin, and from the appearances of the pipe, which is going down more perpendicularly than before, I have no doubt but that we shall find the lead continue in depth. The ore ground going north still continues. John's lode, in the rise in back of the 20, is looking very well.

DEVON AND CORNWALL UNITED.—T. Nell, May 12: The cross-cuts in the different lodes progress very satisfactorily. The stope in the back of Bastard's level are worth 10 tons of ore per fm. In the midway level we have met with a lode south of the south lode, and have driven 6 ft. on its course; it produces 2 tons of ore per fm.

DEVON BULLER.—W. Nell, May 13: The cross-cut at the 56 fm. level, driving towards the south lode, is progressing favourably. The lode in the 56 end, driving west, at present is rather small, but every indication of its getting larger, the water coming so very strong from the lode. The lode in the 44 end, driving west, is 2 ft. wide, intermixed with one throughout, but not enough to value. The two pitches in the bottom of the 32 west, and also the pitch at the western shaft, continue to yield some good work.

DEVON GREAT ELIZABETH.—John Williams, May 10: The men are making fair progress in sinking on the lode, and we have broken from some good work for copper ore. I shall be able to reply to your enquiries more fully in a post or two. The water at present is but little in sinking.

John Williams, May 12: As I stated in my last, the water at present is but little; this, as you may suppose, is in a great measure owing to the dry season; if we can go down a few fathoms to be able to ascertain, as correctly as we can, the underlie of the lode, so as to enable us to rear up the collar of the shaft from the bottom of the sink to the surface, we should then be in a position to carry on the necessary operations for getting up the wheel, &c., without important interruption. We are now down from surface 22 feet, that is to say, 15 feet through sand and the remainder in the lode, the character of which is composed of blue and red flookan, intermixed with beautiful prian, mundic, black, yellow, and small portions of grey copper ore, and occasional spots of jack. The killas on the south is as fair or soft as anything can be, and strongly mineralised throughout. We at present intend to carry the sink down on the south part perpendicular, until we reach the north part of the lode. In laying out our western cross-course yesterday, I find that our present shaft is only 35 fathoms east from it, and from the surface indications I think it quite correct. There is not the slightest doubt, as we go on sinking, but that we shall find the lode daily improving.

Thomas Fozey, May 12: In visiting this property again to-day, I find, from your operations on the lode by the river side to the first cross-course is 52 fms. 3 ft.; from this cross-course to the present shaft, 43 fms.; and from the shaft to the western cross-course, 35 fms.; the whole length on the course of this lode I find to be 450 fathoms; and from every place where the lode has been so far broken into, one might be led to suppose that it may hereafter be one great and continuous course of ore; and I have no hesitation in stating this, being my unshaken opinion. The only requirements is that of erecting the wheel, necessary pit-work, captain's shovels, ropes, &c., linking the engine-shaft 18 fms. or 20 fms. from surface; extending your levels, both east and west, on the lode, so as to throw the men driving out of the way of the men stopping the backs, when any amount of returns could immediately be brought to surface, and the mine at once established as one for richness, which we have not had, before to boast of in this almost untried locality. These are facts which, although, it may be supposed by some as saying a great deal, yet by inspection they cannot be doubted.

EAGLEBROOK.—H. Tyack, May 10: The mine is now entirely unwatered, and we have recommenced in the 20 to drive across to the north lode; the ground is much easier than it was above, and it will take a very long time to reach the lode in the 10 west. We have now taken down the ore ground for 9 fms., from the point at which we first discovered it; I am glad to say it is quite as good as we anticipated, both above and in the bottom of the level; the ore is about 15 ft. wide, nearly solid, and mixed with only a little slate and spar; this ore will afford a valuable stop. In the 10 east the lode is at present nipped by an angular piece of porphyry, but we expect it will soon open out again. We have taken the men from the underhand stope in the adit level, west of the engine-shaft, and put them into a similar stope east of the engine-shaft. In the copper shaft the lode is about 6 ft. wide, and yesterday the men broke some good stones of copper in sinking; the branch of copper in the bottom of the shaft is about 3 in. wide, solid for half the length of the shaft. We have now a good supply of water, the new pool being about half full, and the water-courses into it complete. The tributaries have raised about 2 tons of ore from near the surface close to the 6 fm. shaft, but it does not seem to go down in the same line. We are sending down the copper ore for shipment, and have 5 tons of lead clean, without touching the solid ore, of which there it now a good pile.

EAST ALFRED CONSOLS.—J. Vivian, H. Skewes, May 13: Painter's engine-shaft is sunk to the 30 fm. level. We have set the cross-cuts to drive north and south. The cross-cut in the 15 fm. level is being driven with all possible speed. The lode in the eastern end at ditto is from 18 in. to 2 ft. wide, yielding a little mundic and blende, but not enough to value. The lode in the western end is from 1 ft. to 15 in. wide, producing copper, mundic, and blende, worth 3*t* per fm. The winze is hoisted from adit to 15 fm. level on the western end.

EAST CARN BREA.—T. Glanville, May 12: There is no alteration to report.

EAST PROVIDENCE.—W. Hollow, T. Uren, May 11: Poole's shaft is sinking below the adit level by nine men, at 9*t* 10*t* per fm.; it is now 4 fms. below the adit level, and we expect at the end of next month it will be down to a 10 fm. level; the lode here is 12 in. wide, containing mundic, yellow copper, and a little tin, but as yet nothing to value. At Wheal Mount adit, we have driven 9 ft. on the branch mentioned in last report, and find it poor. We have suspended the work on the branch for the present, and again resumed the south end on the Comfort cross-lode; it is now driving by two men, at 4*t* per fathom.

EAST ROSEWARNE.—J. Dellibridge, J. James, May 8: In the engine-shaft the lode is 1*t* 1*t* ft. wide, yielding a little ore, not to value. In the 33 west the lode is 15 in. wide, with stones of ore. In the 22 east, on north lode, the lode is 1 ft. wide, tribute ground, and from present appearance it seems west towards the bottom of the level. In the 22 west, on same lode, the lode is small and poor. In the 22 west of King's lode, the lode is unproductive. In the 12, east of Mathew's cross-cut, the lode is from 6 in. to 8 in. wide, tribute-ground. In the 12 east, on north branch, the lode is yielding a little ore; it has a kindly appearance, but not to value. In the 22 cross-cut south the ground is favourable; we expect to have about 5 fms. more to cut the lode (Brook lode). In Hallett's shaft the ground is favourable. In Mathew's shaft the lode is 1 ft. wide, tribute-ground; we have six tribute pitches, working by fourteen men—tribute from 12*t* to 1*t* 4*t* adit in 1*t*.

EAST TAMAR CONSOLS.—G. E. Tremayne, May 11: The lode in the 40 south is about 3 ft. wide, composed of fluor-spar and horn-spar, and will produce for lead about 8 cwt. per fm.; in this level north the lode is 3 ft. wide, and worth 12 cwt. of lead per fm. The lode in this end is much improved both in appearance and character, the ground being very favourable, and at present quite clear of the capel which has accompanied the lode in the upper levels. Should this favourable appearance continue (and of which there is every prospect) the value of the mine will be much increased. The lode in the winze in the 30 south is 3*t* ft. wide, and will yield about 10 cwt. of lead per fm. The lode in the 20 north is 2*t* ft. wide, composed of horn and fluor-spar, with rich stones of lead; a very promising lode.

EAST WHEAL RUSSELL.—J. Goldsworthy, May 13: The ground in the 88 is much the same as last reported. In Homersham's shaft there is no change to notice. In the winze sinking below the 66 the lode is being taken down, and is of a most promising character, being already worth for the length of the winze 50*t* per fm., and promising further improvement in a few feet sinking. The stope in the back of the 66, east of Williams's winze, is as last reported. The tribute pitches are without change. I will send a full report for the meeting.

EAST WHEAL TOLGUS.—May 8: Redruth Consols Lode: In the 46, east from the engine-shaft, the lode maintains its size—2 feet wide, consisting of quartz, pebbles, and mundic—unproductive. The lode in the 34, east of the engine-shaft, is 20 in. wide, consisting of soft quartz, mundic, and pebbles, producing good stones of ore, and is promising in appearance. The lode in the rise in the back of the 22, east of the engine-shaft, is 1 ft. wide, unproductive. The stope east and west of the winze in the bottom of the 22, east of the engine-shaft, are yielding 3*t* cwt. of ore per fm. The lode in the 12, east of the engine-shaft, is 2 ft. wide, producing saving work for tin. The lode in the eastern stope in back of the 12, east of the engine-shaft, has not been taken down since last reported. The stope west of the above-mentioned stope in the back of the 12 is yielding fully 2 tons of ore per fm. Nothing new in the 12 cross-cut south. John's incline shaftmen are getting on in clearing out the stope and securing the shaft. The lode in the adit end, east of the new shaft, on the north lode, is small and unproductive.

EXMOUTH.—W. Skewes, J. Nicholls, J. Rodda, May 11: The lode in the 60 north produces stones of lead occasionally, and continues in very congenial ground for mineral, but has not reached the shore of ore gone down in the 40, which has every indication in favour of it being ultimately equally productive in depth; the stope in the back of this level is not quite so good as last reported, now producing 7 cwt. of lead per fm. The 40 north still continues to improve, and will produce 1*t* 5*t* ton of ore per fm., but the ground being rather harder than usual we cannot make great progress in driving. The 30 north is at present producing 1*t* 1*t* ton of ore per fm. The cross-cut west from the 30 south is in mineralised ground, and is expected to reach the lode ere long. The 20 north is without any material alteration since last report. The rise in the back of this level has improved, and will now yield 7 cwt. of lead per fm., and the prospects are in favour of it still continuing to lay open good tribute ground. The cross-cut west from the 10 south is being driven through a congenial channel of killas, which looks kindly for the lode, which we anticipate to intersect shortly. The rise in back of the 10 south is now producing from 6 to 7 cwt. per fm.; the stope north of this will yield about 4 cwt. of lead ore per fm. The pitches throughout the mine are producing about the average amount of lead they have for some time past, and all other operations are much as usual.

GARBEG.—John Trevethan, May 13: The lode in the 60 is without change since my last report; it is 5 ft. wide, producing good stones of lead, intermixed with limestone and carbonite. The lode in the same level south is not so productive, and has become harder; and, having discovered an east and west lode in the south part of our set, I think it very advisable to put four men for a little while to open a little on the lode, which presents a most favourable character, and I have not the least doubt but it will turn out to be a productive one; it now contains very good stones of lead ore. The tribute pitch in the bottom of the 40 is without change. We sold to-day 5 tons, at 1*t* 3*t* 6*t* per ton.

GAWTON.—J. Gill, May 12: In the 50, western end, the lode is from 4 to 5 ft. wide; although much disordered at present by small cross-courses, is presenting a better appearance for an improvement than I have seen for some time past. In the eastern end in this level there is no alteration to notice since last report. In Knott's stope, in back of the 36, the lode is 5 ft. wide, worth 10*t* per fm. In Bickie's stope, in back of the 36, the lode is not quite so well at present, worth 12*t* per fm. In Harris's stope, in back of the 36, the lode is 6 feet wide, worth 13*t* per fm. In Daw's stope, in bottom of the 24, the lode is 4 ft. wide, worth 9*t* per fm.

GELLIRHEIRON.—S. Mitchell, May 11: I am glad to inform you that we have been cut in the 30 cross-cut, and it is worth 6 cwt. per fm. I am giving you more information about the size and value in my next. Nothing new to communicate any other part of the mine.

GOGINAN.—May 11: The two cross-cuts in the 60 or deep adit level (one north and the other south) are progressing favourably, and there is still a great deal of water coming out of the breast of the south cross-cut, and also a little coming out of the north one. The tribute pitches (five in number) over the 60, west of Bryn-pica shaft, are yielding on an average about 12 cwt. of lead ore per fm. In the cross-cut south in the 55, from the boundary-shaft, nothing of importance has yet been met with. The lode in the 30, driving west of the cross-cut north from the boundary-shaft, on the north lode, is 6 ft. wide, with a promising appearance, now yielding 15 cwt. of lead ore per fm.; we have four men working in this end. In this level we shall let a new stope or tribute pitch on Saturday next, which will be our setting day. The lode in the tribute pitch in the bottom of the 50, west of Francis's shaft, 50 fms., is 4 ft. wide, and will produce 10 cwt. of ore per fm. The stope in the bottom of the 120 fm. level, 50 fms. west of Francis's shaft, is still idle, being under water by means of the still breaking down in the back of the adit, but the water will again soon be out and the men put to work. The lode in the pitch over the 100 fm. level, 50 fms. east of Taylor's shaft, is 5 ft. wide, producing 8 cwt. of ore per fm. The pitch over the 90, on the north lode, 5 fathoms west of Gilbertson's shaft, is yielding 10 cwt. of ore per fm. The lode in the pitch over this level, 10 fms. east of Gilbertson's shaft, on the north lode, is 6 ft. wide, producing at present 10 cwt. of ore per fm. The stope in the bottom of the 120 fm. level, 50 fms. east of Gilbertson's shaft, is still idle, being under water by means of the still breaking down in the back of the adit, but the water will again soon be out and the men put to work. The lode in the pitch over the 100 fm. level, 50 fms. east of Taylor's shaft, is 5 ft. wide, producing 8 cwt. of ore per fm. 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wide, underlying north, and producing fine stones of ore and mundic. The engine and pitwork is in good order.

PEDN-AN-DRE.—Capts. Carpenter, Delbridge, and Thomas, May 8: In the 90 east, or Martin's lode, the lode is still in disordered ground. In this level east, on the south part of the lode, the lode is about 18 in. wide, opening tribute ground. In the 90, west from the engine-shaft, driving north to cut Skimmer's lode, we have put the men to drive west on a small branch that we cut in this end; it is about 6 in. wide, composed of copper ore, mundic, and sand; in driving 2 or 3 fms. from the cross-course we shall be able to see more of its value. The sumpmen are progressing satisfactorily with the necessary work, preparatory to fixing the necessary lift. We sampled for April 29 tons 3 cwt. 6 gr., 5 lbs. of black tin, and sold 25 tons 8 cwt. 2 qrs. 10 lbs., for 1609*13*. 6*13*.

PEMBROKE AND EAST CRINNIS.—J. Dale, G. T. Trowren, May 11: In the 162 cross-cut, south of Reid's shaft, the men are making fair progress; ground very congenial or mineral. In the 112 end, east of Smith's shaft, the lode will produce about 1 ton of ore per fathom. In the 112 end west the lode will produce 1 ton of ore per fathom. In the 100 end, east of Smith's shaft, the lode is large and will produce 2 tons of ore per fathom, and a great deal of mundic. In the back of the same level the lode will produce 1½ ton of ore per fathom. In the 100 end west the lode will produce 1½ ton of ore per fathom. The men are now making fair progress. Ground driven during the week ending May 11:—The 162 cross-cut 4½ fms. deep, ground strongly mineralised. The 112 end east 4½ fms. deep, and of a very kindly character. The 112 end west 4 fms. The 100 end east 4 fms. and continues to look well. Smith's shaft is sunk 5 ft. We have just sold 110*13*. worth of mundic, shall sell on Friday about 30*13*. worth of tin, and in a few days after about 110*13*. worth of mundic more.

PENCORSE CONSOLS.—H. B. Grose, May 10: Saturday last being our monthly setting and pay, the following turnwork bargains were set:—The 50, to drive west of Retallack's shaft by four men, 6 fms. stent, at 50s. per fm., lode 1 ft. 6 in. wide. At present poor for mineral, but looking promising for improvement shortly.

The 55 fathom level to drive east of the east shaft, by two men, 4 fms. stent, at 65s. per fm., lode small and unproductive. The 35 fathom level, to drive west of Retallack's shaft, on the new lode, by four men, 4 fms. stent, at 50s. per fm., and 10s. per ton for the blonde; the lode in this place is looking well, worth 12*13*. per fm. for blonde, copper, and lead ores, and holding out great prospects of a further improvement. Tribune:—four pitches in the 6, at 28s. per ton; one in the 45, west of Retallack's shaft, at 24s. per ton; one at 22s. per ton for blonde; and one in the 45, east of east shaft, at 22s. per ton; in all seven pitches, varying from 22s. to 28s. per ton for blonde, and the standard for lead and copper ore—20s. per ton for copper, and 40s. for lead. The filling and landing, sawing and whin drawing, same as former prices. Throughout all our operations the mine is looking better than heretofore, and I hope by care on my part, and a little more patience by the shareholders, the Pencorse will yet turn out to the satisfaction of all parties concerned. We have now employed on the mine 12 turnwork men, 16 tributaries, pitman, smith, sawyers and engine-men, 7 dresser and 13 total. 49. We have sent to New Quay the cargo of rough jack, 55 tons; but as yet have got no vessel to take it away. We shall commence taking the fine to New Quay to-morrow (computed) 85 or 90 tons.

PENDEEN CONSOLS.—Wm. Eddy, May 8: The lode in the 70 winze is much the same as last week. In the 70 end no lode broken for the week, but shall take it down next week, the last taking down being the best we have had in the mine. In the 82 north the lode is very ore, and appears to improve as it goes north. In the sumpmen the lode is still very large, with very much mundic and ore mixed throughout. We expect to get the shaft down to the 94 this month. Our whin has been idle for the last three days. We have taken out the old cylinder, put in a new one, and have the double skip-road complete to the 82, which we shall begin to work on Monday morning. I think we shall have a very good machine, and not dear at 260*13*.

PENHALDARVA.—Thomas Hodge, May 13: In the 20 south of engine-shaft, the lode is 2½ ft. wide, composed of soft spar, lead, and blonde—sawing work. In the 20 north the lode is spotted with lead, but not to value. In the 10 south the leader is small and unproductive. In the 10 north the leader part is 18 in. wide, and will produce ½ ton of lead per fm. The stopes south of Vigus's winze will produce ½ ton of lead per fathom. The stopes south of Vigus's winze will produce 5 cwt. of lead per fm. All other places much the same as last reported.

POLBRENN.—May 8: The ground in Doreas's shaft is still hard, and the cross-course small and close, but I think the shaft will be down by the latter part of next week. We shall then set the shaftmen to cut out the ground standing against the lode, which I think we shall soon do. The lode in the 22, east of Doreas's shaft, is about 1 ft. wide, yielding 4*13*. worth of tin per fm. The lode in the winze sinking below the 22 fm. level, west of Doreas's shaft, is poor, and is smaller than it has been. This is now more than 6 ft. deeper than the winze east of the shaft, and yet no water. The lode in the 22 fm. level, west of the engine-shaft, is so small that we can hardly trace it, and the ground very hard; if an improvement does not take place in this end soon it will be better to discontinue driving. In a short time I hope we shall be able to employ these men in the 32 fm. level at Doreas's to better advantage. At present you will perceive that we are raising but very little tin. There is but little doing at present on the lode; the shaft—sinking in kilns, and the eastern winze down to the water; however, in a short time I think we shall be doing better. We shall soon have the 32 fm. level driving east and west of shaft, and I think very likely in good tin ground; and also the eastern winze sinking in a good course of tin. I stated in my last report it is worth 30*13*. per fm., and can be sunk for about 5*13*. per fm. We have about 10 tons of tin clean and ready for sale at any time. We think it is a very good parcel of tin, it looks well; but not having any assayed we don't know what it will produce, but think high. As tin is advanced in price, and is likely to go higher, we should do well to leave it a little longer before selling. However, as to that matter you know best, we shall leave it until we have instructions from you.

POLLEXFEN CONSOLS.—Samuel Cook, May 5: At this mine I find an engine-shaft sunk about 5 fathoms through some old workings on a north and south lode, which, at bottom, is from 14 in. to 18 in. wide, composed of silver-lead ore, gossan, white iron, and soft spar; but from influx of water it is impossible to sink further with present machinery. In the bottom of the level, driven south about 5 fathoms, the lode in the end is split up into branches, but in the bottom seems coming together again, which will improve its character. In noticing the dip and cleavage of the strata, I find mineral stains in the east side of the level, with branches of quartz and spots of lead ore, which leads me to think that there is more lode in that direction. An adit driven in a hill, about 130 fms. south, has intersected two lodes, which will form a junction with the last-named lode. There is a large east and west lode, from 5 ft. to 6 ft. wide, composed of flocks, spar, mundic, and copper ore, which, however, will make lead in depth, being imbedded in very congenial strata for that mineral. There are eleven dykes traversing the district, which is within a short distance from granite, and holds out a very good chance of success.

PROVIDENCE MINES.—A. Anthony, May 12: The lode in the 75 end, east of Higgins's shaft, is 4 ft. wide, worth 80*13*. per fm. The bunch of tin stopping north in the back of the 75 east is 4 ft. wide, worth 100*13*. per fathom; the stopes under this pitch are 4 ft. wide, worth 65*13*. per fm. The cross lode, stopping north in the back of the 75 east, is 6 ft. wide, worth 60*13*. per fm. The lode stopping in the bottom of the 65, east of Comfort lode, on a limb of the 65, is 2 ft. wide, worth 10*13*. per fm. The stopes in the bottom of the old carbon are 2 ft. wide, worth 8*13*. per fm.

QUEEN OF DART.—P. Hawke, May 13: The lode in the 30 east is increased in size, it being now 3 ft. wide, composed of spar, mundic, and copper ore, but not to value. The lode seems to be very porous, letting out a large quantity of water; I would say not less than 30 gallons per minute—such is considered a good indication. In the 20, to the east of boundary shaft, the lode is about 15 in. wide, producing occasional stones of copper ore, with a kindly appearance. I mentioned in my last report of counter-acting slide showing itself in the boundary shaft, which I regarded as unfavourable for a time. I find it has intersected and passed through the lode, injuring it materially in size and value. The lode is now 1 ft. wide, composed of mundic and a small proportion of copper ore, the latter not sufficient in quantity to render it valuable. The stopes in the back of the 20 have declined in value since writing on the 5th inst. The present yield is about 2½ tons of copper ore per fm. The machinery works well.

RAMSLEY HILL.—C. Henwood, R. Barkell: Since our last report we have set the following bargains:—A level to be driven west, on north lode, from adit cross-cut by four men, 4 ms. or the month, at 2*13*. 10*13*. per fm. The lode in the end is 3 ft. wide, carrying a leader of ore on the footwall, worth 2½ tons, or 25*13*. per fm.; the other part of the lode being composed of flocks, spar, mundic, and ore, good saving work. A level to drive west of adit cross-cut, on south lode, by two men, 4 ms. stent, at 2*13*. 10*13*. per fm. This lode being 14 or 15 ft. wide, we are driving on the north part of it, where we have a leader of copper ore, 6 in. wide, of good quality, which is enlarging as we go down, samples of which we have sent on to the *Mining Journal*. Paul's stop in back of adit, west of cross-cut, let to two men, at 4*13*. per fm. This stop is not as well as last reported, as we are getting shallower; it will now turn out 1 ton of ore per fm. We are now engaged in dialing, levelling, &c., preparatory to sinking the shaft and erecting our engine-wheel. We have now at Coppistone Station 45 tons of copper ore; on the mine dredged about 15, making 63 tons, which would have been at Coppistone, as stated in our last report, if we could have got carriers to take it. We beg to say the mine was never looking so well as it is at this present time.

REDMOOR.—T. Taylor, May 10: In the 80 west, on the count-house shaft, the lode is 1 ft. wide, composed of spar, mundic, and quartz, and intermixed with spots of lead and copper. The 80 west, on Goodman's lode, contains stones of copper ore, but as yet not enough to value. The 80 east, on Kelly Bray lode, is without copper ore per fm. In the 20 end, north, on the lead lode, the lode is about 1½ ft. wide, composed of quartz, spar, mundic, and will yield about 4 cwt. of lead ore per fm.

RIBDEN.—R. Ninnes, May 13: Since we commenced we have opened on the backs of four large and well-defined lodes, composed of beautiful gossan, quartz, &c., as we anything I ever saw. We have commenced sinking at the junction, where three of these lodes cross each other, from which I anticipate most favourable results.

RIVER TAMAR.—J. Cock, May 10: There is no alteration since my last report.

ROSEWALL HILL AND RANSOM UNITED.—F. Roach, May 12: Since May 5 we have cleared and secured 9 ft. of engine-shaft, but cannot see the 36 yet; but if we may judge from present appearances we may, without hesitation, say it cannot be off. We have forked 10 fms. in the Ransom, and are now preparing to fix a lift at the 20; the shaft in some places is small, and requires to be made larger. In the adit we have been 10 fms. west of Fane's shaft; this 40 fms. can be put in repair at a small expense. We have commenced building the walls of the steam-stamps engine-house, and other necessary work for laying out the stamps.

ROUND HILL.—R. Waters: In the 52, driving south of new engine-shaft, the lode is poor, but letting out a great deal of water. There is a branch coming in on the east or foot-wall side, which I think will prove to be the main part of the lode. In the 40, driving south, the lode is 2½ ft. wide, and very much improved since last reported, being now worth 10 cwt. per fm. The stopes in the back of this level is producing saving work, and likely to improve as we go further south. The stopes in the back of the 40 north is still looking well, and will yield fully 3 tons of ore per fm. The north end of this stopes is within 1 fm. 2 ft. of the 40 end. There is a splendid lode going away in the western side of the above stopes, which to all appearance will go beyond the end named. I consider this to be a grand improvement, and likely to enhance the value of the mine. Four of the men belonging to this bargain are at present stowing from Bettow's winze; the lode at this point is small and poor, but we shall get some work every part day. The tribute department is as for some time past.

SORTBRIDGE CONSOLS.—J. Richards, May 13: Hitchins's engine-shaft is in regular course of sinking below the 74; the ground is not so favourable for progress, and the lode is unproductive. In the 74 east the lode is disordered by silty ground. In the 74 west the lode is 3 ft. wide, composed of flocks, spar, mundic, quartz, and occasionally good stones of ore. In the 60 east the north part of the lode being driven on is composed of quartz, spar, mundic, and a little ore. In the rise in the back of the 60 west the lode is 3 ft. wide, containing quartz, spar, mundic, peach, and a little ore, and is promising. The 50 west, and

west of the cross-course, is being driven in a northerly direction; no lode has as yet been met with. In the 50 east, on the south lode, the lode is 2 ft. wide, and yields good stones of ore occasionally. In the stopes in the bottom of the 50 east the lode is worth 2 tons per fm. In the 40 west the lode is promising, being composed of quartz, peach, mundic, and a little ore.

SOUTH BEDFORD CONSOLS.—James Phillips, May 11: The lode in the 75 west is 3 feet wide, and worth 2 tons of ore per fm.—South Lode: No alteration in the 36 cast since last report. In the 20 east the lode is 2 wide, producing saving work. The lode at Coward's shaft is improved, being now 3 feet wide, and yielding saving work. The lode in the winze in the bottom of the adit level is 1½ foot wide, and worth 1 ton per fm. In the 40 west the lode is promising.

SOUTH CARY-BREA.—T. Glynn, May 8: The flat rod shaft to sink under the 68, cross-cut, south of Reid's shaft, the men are making fair progress; ground very congenial or mineral. In the 112 end, east of Smith's shaft, the lode will produce about 1 ton of ore per fathom. In the 112 end west the lode will produce 1 ton of ore per fathom. In the 100 end, east of Smith's shaft, the lode is large and will produce 2 tons of ore per fathom, and a great deal of mundic. In the back of the same level the lode will produce 1½ ton of ore per fathom. The 100 end west the lode will produce 1½ ton of ore per fathom. The 58 to drive west of the flat-rod shaft, by four men, at 8*13*. per fm.; lode unproductive. The deep adit level to drive east of the cross-course, by six men, at 10*13*. per fm.: lode unproductive.

SOUTH CLIFFORD UNITED.—No. 6 lode west is 1½ foot wide, containing gossan, mundic, prian, and stones of ore, with a very kindly appearance for improvement. The same lode east is 4 feet wide, containing gossan, prian, and spots of ore, with an evident great warmth coming from the lode. No. 3 lode east is 2 feet wide, a very pretty lode, containing soft spar, gossan, mundic, and spots of black ore. The same lode west is precisely the same. Treddadie lode is now 2 ft. wide, a very kindly lode.

SOUTH CRENNER.—J. Delbridge, E. Chegwin, May 10: In the 94 west the lode is 3 ft. wide, yielding 1½ ton of ore per fm., worth 4*13*. per fm. The lode in this level is a fine looking lode, and from every appearance we expect a large quantity of ore from the back and bottom; also from the 105 being within a few fms. of the ore ground in the 94. In the 84 west the lode is 2 ft. wide, yielding ½ ton per fm., worth 2*13*. per fm. In the 74 west the lode is 2 ft. wide, producing 1 ton per fm., worth 2*13*. per fm. In the 74 east the lode is 20 in. wide, yielding 1 ton per fm., worth 4*13*. per fm. In the 84 east the lode is 20 in. wide, yielding 1 ton per fm., worth 4*13*. per fm. The lode in the 74 east is very much changed in the last 6 ft. driving, so is the rock also; and from the change in both, and the country, we expect to meet with ore shortly. Time is required to prove its value, the ground being very spare for driving—about 1½ fm. a month.

SOUTH CROWNDALE.—T. Bawden, May 13: The shaft sinking on the middle level is about 7 fms.; the lode is 2½ feet wide, composed of spar, mundic, and copper ore, yielding 2 tons of ore per fm. We are cutting down the old shaft on the north ledge to prepare for the erection of a steam-engine, which I hope will be complete in about a fortnight.

SOUTH DOLCOATH AND CARNARTHEN CONSOLS.—W. Roberts, May 11: There is no alteration in any part of the mines since last reported.

SOUTH WHEAL TOLGUS.—May 8: The water has been drained to the bottom again, and the men all at work. The sumpmen are putting in a set of bearers in the 110, to carry the tramroad, &c., preparatory to the sinking of Michell's engine-shaft below the 100, to the 110, which we hope to resume next week.—Younen's Lode: The lode in the 110, west of Michell's, is 18 in. wide, yielding from 1½ to 2 tons of ore per fm. The lode in the 100, west of Michell's, is 15 in. wide, yielding 2 tons of ore per fm. The lode in the 100, west of Michell's, driving east on the north branch, the branch is 1 foot wide, consisting of peach, mundic, and spar. Nothing new to report for the 78 cross-cut, driving south of the 74 east is very much changed in the last 6 ft. driving, so is the rock also; and from the change in both, and the country, we expect to meet with ore shortly. Time is required to prove its value, the ground being very spare for driving—about 1½ fm. a month.

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ere. In the winze sinking below the 74 cross-cut, on the branch of ore referred to above, the branch has a very promising appearance, and likely to produce some good results as it drops into the north lode, which we calculate to be from 6 to 4 fms. below the present bottom of the winze. No lode has been met with in driving north on the cross-course in the 62, east of Matthews's shaft, since last report; the cross-course is still producing occasional stones of ore. The slopes above the 32, over the stull, are still looking well, worth 3 tons of ore per min.

WHEAL SIDNEY.—W. Edwards, May 12: A good improvement has taken place in the winze sinking below No. 3, where the lode is now 8 ft. wide, composed principally of cassan and friable spar, carrying tin throughout of good stamping quality; beyond this no change of consequence has occurred since our general meeting April 28.

WHEAL TEHIDY.—D. Lanksbury, May 12: Our monthly turnshaw setting was on Friday last, when the following bargains were set:—The engine-shaft to sink under the 60, by nine men, at 32d. per fm. The 60 to drive west from the engine-shaft, by six men, at 10d. per fm. The 60 to drive west from the engine-shaft, on the caunter; the lode is 1 ft. wide, worth 1 ton of ore per fm., set to four men, at 6d. per fm. The 60 to drive east from the engine-shaft, on the caunter; the lode is 6 in. wide, poor, set to four men, at 6d. per fm. The 50 to drive east, on the caunter; the lode is small, set to four men, at 6d. per fm. The 50 to drive east, on the south part of the caunter; the lode is divided into two parts, with good stones of ore—set to two men, at 6d. per fm. In the winze sinking in the 50, on the caunter, west from engine-shaft, the lode is 6 in. wide, containing $\frac{1}{2}$ ton of ore per fm.; set to four men, at 5d. per fm. The 60 to drive north from the diagonal shaft; set to four men, at 10d. per fm.

WHEAL TREFUSIS.—Z. Carkeet, May 13: The engine-shaft is sunk 5 fms. below the 55 fm. level, lode 4 ft. wide, disordered. In the 55 east, lode 4 ft. wide, worth about 10d. per fm. The 60 to drive west from the engine-shaft, on the caunter; the lode is 1 ft. wide, worth 1 ton of ore per fm., set to four men, at 6d. per fm. The 60 to drive east from the engine-shaft, on the caunter; the lode is 6 in. wide, poor, set to four men, at 6d. per fm. The 50 to drive east, on the south part of the caunter; the lode is divided into two parts, with good stones of ore—set to two men, at 6d. per fm. In the winze sinking in the 50, on the caunter, west from engine-shaft, the lode is 6 in. wide, containing $\frac{1}{2}$ ton of ore per fm.; set to four men, at 5d. per fm. The 60 to drive north from the diagonal shaft; set to four men, at 10d. per fm.

WHEAL TRELAWNY.—Wm. Jenkin, Wm. Bryant, May 13: Smith's shaft is sunk 8 fms. 4 ft. below the 142. The lode in the 142, north of this shaft, is 3 feet wide, and worth 14d. per fm.; in the same level south it is 2 feet wide, and worth 10d. per fm. In the 132 north it is 3 ft. wide, and worth 13d. per fm.; in the same level south it is 2 feet wide, and worth 5d. per fm. Chippindale's shaft is sunk 6 fms. 3 ft. below the 120; the lode in which is 2 ft. wide, and worth 8d. per fathom. The lode in the 120, north of this shaft, is 2 ft. wide, and worth 10d. per fm.—South Mine: Trelawny's shaft is sunk 6 feet below the 142. The lode in the 142, south of this shaft, is 3 ft. wide, and worth 7d. per fm.; in the same level north we are driving by the side of the lode. In the 130 south it is 3 ft. wide, and worth 11d. per fm. In the 107 north it is 2 ft. wide, and worth 5d. per fm. The slopes and pitches are producing much as usual. We sampled on Saturday last a parcel of crop lead ores, computed, 80 tons, for sale on May 15.

WHEAL TREVELYAN.—J. D. Osborn, B. Gundry, May 8: The cross-cut driving north from Watson's, in the 60, to cut Park lode, is driven 9 ft. in favourable strata for copper. In the 50, driving east and west on Richards's tin lode, the lode is 2½ ft. wide, and more productive than the level above. In the 40, driving east on Richards's tin lode, no lode has been taken down this week.

WHEAL UNION.—T. Glanvill, May 7: Tutwork Setting: The 40, to drive west of the engine-shaft, by six men, at 4d. per fm. The 30 to drive east of the engine-shaft, by six men, at 6d. per fm.; lode worth 20d. per fm. for tin. The 30 to drive west of the engine-shaft, by four men, at 8d. per fm. The 20 to drive east of the engine-shaft, by four men, at 3d. 15s.; lode 3 ft. wide, producing stones of yellow copper ore. The 20 to drive east of the engine-shaft, on the Turnpike lode, by four men, at 4d. per fm. The 30 cross-cut to drive north of the engine-shaft, by six men, at 2d. 15s., per fm. The 20 cross-cut to drive north of the engine-shaft, by four men, at 2d. 15s., per fm. The western shaft to sink under the 20, by six men, at 11d. per fm. A new shaft to be sunk to intersect the north lode about 30 fms. below adit, to be carried 10 ft. long by 6 ft. wide, within timber, by nine men; the taker to pay for all landing and filling, and for fixing timber according to the agent's directions; taken to sink 20 fms., at 100d. per bargain.

WHEAL UNITY.—J. Vivian, May 3: The lode in the 50, east and west from the flat-shaft, although not so good as it was at the shaft, is kindly, and opening tribute ground. The lode in the 40, west from ditto, is 3 feet wide, and opening tribute ground; in the same level, cast from No. 1 shaft, the lode is improved in appearance since last report. In the 30, east from No. 2 shaft, we have intersected a cross-course, but do not know the description of the lode beyond this point. The levels above are suspended. We have commenced sinking a winze under the 30, east from No. 1 shaft, so as to lay open tribute ground. The tribute department is without alteration to notice.

J. Vivian, May 10: The lode in the 50 fathom level, west from flat-shaft, is $\frac{1}{2}$ ft. wide, and opening tribute ground. In the same level east the lode is improved, and worth about 6d. per fm. for copper ore. In the 40, west from flat-shaft, the lode is 2 ft. wide, and opening tribute ground. In the same level, east from No. 1 shaft, the lode is $\frac{1}{2}$ ft. wide, improved in appearance, and worth from 5d. to 6d. per fm. We have suspended this end, and put the men to rise against a winze in back of this level to open up tribute ground. The lode in the winze east of No. 1 shaft is 2 ft. wide, and opening tribute ground. In the 30, east from No. 2 shaft, we have cut through the cross-course about 6 ft. where the lode is still in a disordered state.

WHITFORD.—John Trevelyan, May 13: The ground at the shaft has become harder, and of a lighter colour, more congenial for mineral; it progress with every satisfaction, and is now down from surface between 16 and 17 fms.

TARNER.—N. Faull, May 10: The shaft is now down 25 fms. from surface, or 20 fms. below the adit. When we commenced sinking the shaft we considered the lode to be a north underlay; but, when about 5 fms. below the adit, the lode crossed the shaft, and dipped south. In the 10 a cross-cut was driving south about 9 ft., and intersected the lode after driving about 15 fms. east on its course, through a very promising lode, from 2 to 4 ft. wide, with fine stones of copper ore. A slide was made with which we have the lode north about 4 ft. and disordered it for 2 or 3 fms. It has again returned a more promising appearance for the last 2 fathoms than before, and at this time will produce full 1½ ton per fm. of black and yellow copper ores. In the 20 we thought to have about 4 fms. to drive south to intersect the lode, but in cross-cutting 2 ft. we met with the lode, which has again changed its underlay north; it is about 3 ft. wide, of a very promising character indeed, producing large rocks of copper ore, and is worth 4 tons of ore to the fm. worth, I consider, 20d. per fm.

STEEL WIRE-ROPE.—It will be in the recollection of our readers that the *Mining Journal* of May 1 contained a notice of a new and very remarkable kind of wire, which is peculiarly suitable for the manufacture of ropes, whether as used for naval or mining purposes, or for submarine telegraph cables. We also added a statement detailing the results of certain experiments, which showed the comparative strain borne by ropes from the ordinary charcoal iron-wire, and from this new material, the difference in favour of the latter being no less than 125 percent. It is, therefore, evident wherever wire-ropes are employed, and where lightness of construction added to great strength is desirable, that they may be now made of this new manufacture so as to possess all the requisite power, and with the additional advantage of weighing at least one-half less than those of the kind now in use. The process which produces this result (and which has been patented by the inventors, Messrs. Webster and Horsfall, of Birmingham) is so simple, and yet so remarkable in its effects, that we now return to the subject, considering the invention is quite an era in the history of metallurgy. It will, doubtless, surprise our readers when we tell them this new wire is steel; the manufacture of which, as thus applied, appears to be brought by the inventors to a state of perfection hitherto unknown. The metal when subjected to their process acquires the most remarkable flexibility and toughness, combined with such intensity of hardness, as gives it the extraordinary strength we have already described. The wire becomes, in fact, not only hard, but at the same time so pliable as to be twisted with the greatest ease. The process by which these results have been obtained is hardening, and then slightly tempering the wire previous to finally drawing it, thus reversing all the recognised principles of the wire manufacture. The hardening closes the pores of the metal, and thoroughly solidifies it, thereby imparting the great strength we have indicated; the tempering merely assists the final drawing. The effect of this great strength is even more remarkable in the smaller than in the larger sizes, and it will, perhaps, be scarcely credited by those who are accustomed to wire (particularly iron wire), when they are told that a piece of No. 22² of this new material will support a strain of 220 lbs., while the best charcoal iron ever made, of the same size, will with difficulty bear one of 75 lbs. We believe that the idea of the possibility of using steel wire, as an improvement on iron, for ropes and for suspension bridges, has existed for several years. It is indeed long since some of our most eminent engineers recognised the advantages we have already referred to, in case steel wire could be made with such a certainty of temper, at such a price, and in such quantities, as would render it generally available. However, as none of these requirements appeared then likely to be attained, it was, therefore, considered impossible that they ever could be, and nothing practical resulted from these speculations until about three years since, when the trade of the patentees necessitated an improved description of steel-wire for a particular purpose; and after much labour the desired effect was obtained by the discovery of the process already alluded to, when also its applicability to the manufacture of ropes occurred to them. We may, indeed, especially refer to its peculiar advantages for mining purposes: if deep pit ropes, for instance, are made of it, what a saving of weight there will be, and, consequently, of engine-power; moreover, the durability of the article is excessive, and we are assured it will last treble the length of time at least of an ordinary iron wire-rope. There will be, of course, much difficulty in inducing the colliers to use such rope for themselves (they may be deterred by their very small size), but nothing need hinder their employment for the mere raising of coal. For naval purposes this lessening of weight is indeed essential. Most of our ships of war are now rigged with wire-rope; and it is in contemplation for all of them to be. We have been told that a line-of-battle-ship requires 30 tons of wire standing rigging of the present material, where wire rigging is used. Fancy the saving of 15 tons aloft, or above deck, by the use of the new wire, and the advantage to the vessel when in a gale of wind. This extraordinary wire would have been sooner introduced to the public had not the cost of its production rendered it almost a prohibition on its use, but very recent improvements in the mode of manufacturing it have enabled the patentees to offer it at a price which renders its employment as inexpensive as the ordinary charcoal iron-wire, and its supply as unlimited; we, therefore, confidently anticipate its general adoption.

* No. 22 is the size of the wire of which the Atlantic telegraph cable is made, and we believe we speak correctly in saying its required breaking strain is 63 cwt. Could it have been made of this patent wire it would have borne 11½ tons; but the enormous quantity of wire required on very short notice of this small size for the purpose, and the then price of the patent wire, entirely forbade its employment.

PATENT REFORM.—On Wednesday, a bill to amend the Patent Law Amendment Act, 1852, prepared and brought in by Mr. Duncombe, Mr. Scholefield, and Mr. Cowan, was brought on for the second reading in the House of Commons, when Mr. Duncombe stated the effect of the bill to be to reduce the present stamp duties payable on letters patent for inventions (25² for first three years, 50² after that, and 100² at the seventh year) to less than one-half those amounts, there being at present a very large sum beyond the expenses of the Patent Office paid to Government, and it had been calculated that the new scale of stamp duties would still leave a surplus; and that the bill had a clause legalising the right of a person who had made application for a patent, and got protection, to make a second application, if he might find it necessary to do so. The bill was opposed by the Solicitor-General (Sir H. M. Cairns), who took various technical objections to it, but stated that if after the receipt of the seventh year's payment (100²) the Patent Office should still find a considerable surplus in hand, the Government would be disposed to consider what reduc-

tions could be made in the stamp duties. After some remarks by Sir J. V. Shelley in support, and Mr. Bovill against the bill, it was thrown out. This result may be taken to be tolerably good, as it gives hopes that the patent law will receive some systematic revision; but the first step should be to get some proper permanent commissioner or commissioners of patents appointed who would really attend to the matter, and we trust that Mr. Campin, and the other members of the National Patent Law Amendment Association, will not cease to agitate for reform.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

AT GREAT WHEAL BADDERN.—The resolution to stop the mine, instead of being confirmed at the meeting on Tuesday last, was rescinded, a most important discovery having been made in the interim. As is well known, this mine has returned some 40,000², or 50,000², worth of ore off one lode, chiefly in elvan. This elvan had become squeezed up, the ore disappeared, and there seemed to be no alternative but abandoning the mine or sinking a new shaft from surface, to take the elvan at 50 fms., at a point where it was known to be good. The shareholders resolved on the former course, when in the course of an examination of the mine, with the lord's toller, it was suggested to put a pick into the side of the bottom level, just behind the end, where a good stone of ore was "looking out." This done, it was found that the lode was hollow, and lined with splendid argilliferous lead. The same experiment was made at a point above, in the elvan, with the same result, and also in the level above. Men have been placed to drive at these points, on the course of what is now found to be a cross-course, or caunter, and in the 51 the lode is worth 15 cwt., to 1 ton, at the middle place 2 tons, and in the bottom 15 cwt., respectively per fm. As the upper levels have not been brought on this length, there is every probability of finding the discovery hold good all the way upward.

DEVON GREAT CONSOLS.—At Wheal Josiah, the lode in the shaft, which is now down about 130 fms., is worth 20 tons of ore per fm. for the width of the shaft, and all the other parts of the mine continue equally as good as for some time past.

AT BOSCEAN MINE.—The 134 fm. levels have been commenced driving east and west of the slide shaft, and contains a very promising lode, opening tin ground. The 112 and 122 fm. levels west are also in tin ground. The levels on the new lode east and west of the guide, at the old mine, have a very favourable appearance, and have opened some ground that will pay well for working; the lode is 8 to 10 in. wide.

BASIL MINE.—This is an entire new speculation, entered on by one nobleman only. A discovery of iron ore of extraordinarily rich quality having been accidentally made, search has been instituted to discover the vein. Large quantities of micaceous iron have been found, apparently in pockets and layers. We could not detect a lode. This micaceous iron possesses the rare quality of retaining its steel, or rather black-black-like lustre, and does not yield a reddish stain or colour, like the Hemlock and many other micaceous ores. Many tons of it are at the surface, as well as a large quantity of smelting ore. Search will doubtless reveal the lode, or main body, when a calculation of profits may be easily made, and the certainty of remunerative ascertained. The only drawback we entertain is the cost of carriage to port (Boscastle). However, so easily is the cost of iron ore working calculated, that it becomes a mere question of £ s. d., and not one of mining chances.

NORTH STAFFORDSHIRE.—Mining in the district is beginning to attract attention: a company has commenced working the Ribbles Mine, and within the short space of three weeks they have opened the backs of several splendid veins, which are everything to warrant immense deposits of both copper and lead, and the large number of shares already subscribed for in the immediate vicinity is a pretty good guarantee of the opinion entertained of it by those well acquainted with the district.—A RESIDENT.

NORTH CROFTY.—The lode in the 120, east of Rules' shaft, has improved considerably during the last week, and is now worth 25² per fm. The importance of this improvement cannot be too highly valued.

GREAT CADBON AND SLADE MINING COMPANY.—In referring to this adventure in last week's Journal, we stated that the mines had been in abeyance: it appears, however, that we were in error. We are requested to state that the mine was kept at work, and the shaft commenced to be sunk (it is now 25 fms.) during the late panic by the then few shareholders, and it was considered useless to introduce the mine to the public during the commercial depression. The public have not been asked to join the shareholders see that Mr. Henwood's report corroborated that made by Capt. Gregory the previous week. The present shareholders and their friends are quite prepared to carry on the mine to the extent required. The mine is well situated, and Mr. Henwood reports that it may be easily and cheaply worked; the ground stands firmly without timber, usually an expensive item; and the works are in the most perfect order.

PENHALDARVA.—Penhaldarva is looking very well. The 10 north is worth ½ ton of lead per fm., and the stones in the back $\frac{1}{2}$ and $\frac{1}{4}$ ton per fathom. The 20 south is saving work (better than in the level above), and the 20 north is not yet under the ore ground. The two-monthly sale of ore has just taken place, being 20 tons, for about 400², which nearly pays costs. The returns are likely to be increased soon.

GREAT TREGUNE CONSOLS.—These mines are on the eastern declivity of the great Cornish granite at Fox Tor, at the junction of the killas with the granite, a situation analogous to Tresavac, Buller, and other celebrated mines: the junction may be easily traced. A quarry has been opened about 300 or 400 fms. east of the workings, where a metamorphic slate has been raised for road-making purposes. A north and south trap dyke exists 200 fms. east of this; it is said to run from channel through the country; it consists of hornblende and hypersthene rock. The south mine is in the granite, and is a large lode, composed of capel, quartz, mica, and fluor-spar, with black and yellow ore. In the 40 the lode undergoes a change, and is split; the northern branch has been brought to 60 fms. A level has been driven at the 40, but no important results attended the exploration, save promising indications. In the 60 good stones of excellent copper were met with; the end of this level holds out great promise, containing black oxide of copper, with cassan and fluor-spar. A cross-cut is being put out in this level, to cut the supposed southern part of the lode, a most judicious step, as evidence of its existence is afforded by the exudation of water, highly charged with ferruginous matter, from the southern or hanging wall of the north lode. The shaft is being sunk on the course of the lode to the 70; when this depth has been reached, and a level extended west to stop the ore gone down, a productive mine may be expected. Mines in this formation are usually deep ore they become remunerative. Therefore the company, chiefly Londoners, have nothing to fear, but everything to hope. On the mine are about 5 or 6 tons of ore saved in driving the levels, none having been stopped. The burrows (the best possible indices) display abundant proof of a mineralised country, and excellent examples of various rocks may be procured. The machinery consists of two wheels for pumping and one for drawing, capstan and shears, horse whim, cogging machines, &c.

We are pleased to learn that the **BIRCH TOR AND VITIFER MINES** have emerged from the trammels of the Wind-up Act and the Court of Chancery, and are being vigorously worked by a new and influential company, under the designation of the New Birch Tor and Vitifer Consols, and we have only to refer to the appointments made at the meeting, yesterday, to give assurance of a system of efficient management.

SNOW BROOK SILVER-LEAD MINE.—In March last we referred to the discovery of a valuable lead and silver mine at Snow Brook, Plymmon, by Capt. Reynolds, of Llanddow, and stated that a number of gentlemen were making arrangements for carrying out the undertaking forthwith. A limited liability company has now been formed, a prospectus of which appears in another column. The capital is fixed at 8000², in shares of 2², one-half to be paid on application, and the remainder on allotment. The mine has been inspected and very favourably reported upon by Captains J. Roach, M. Francis, and J. Reynolds. There is a large silver-lead lode on the line of the Goginan vein; the sides are left very full of ribs and branches of highly charged silver-lead ore, but a portion of the lode has been taken away for 3 or 4 ft. wide for an unknown distance below the adit, and no doubt this contains the most solid ore. A highly favourable opinion is entertained of the place, and it is believed that good deposits and courses of ore will be found there. The lode may be intersected some 50 or 60 fms. further west by driving the Nantymel lode a few fathoms, which no doubt would be a sufficient depth to unwater the Roman workings. A sample of the ore has been assayed, and it produced 80 per cent. of lead, and 11 ozs. of silver to the ton of lead. Machinery and dressing materials are about being erected immediately on the spot, where there is a never-failing stream of water for all purposes.

TRESELYN MINE (Altarnun).—This has been worked for tin, of which a small quantity has been found. However unpalatable, it is our duty to say bad management and misrepresentation have certainly prevailed here, statements having been made of there being rich tin lodes, and extensive works accomplished. The facts are, a few short pits have been sunk on the backs of the lodes, but scarcely an ounce procured; one shaft sunk to 7½ fms., one 16 fms., and another 4 fms.; two adits driven about 16 fms. each, and one about 6 fms.; a water-course has been cut for about a mile, to work a wheel, but at such an elevation as to be entirely useless; a shed partly erected, and that was all. A change of management taking place, the new agent found the adit mouths backed in, one of the shafts partly refilled, and everything in confusion. He, however, discovered on the burrows about a wheelbarrow full of waste, which induced him to proceed; this being done on a lode called No. 1, it was found to be fine east and west lode, which had scarcely been touched; it was about 7 fms. from surface. The hill rises fast, and at every fathom the lode improves; it is now about 2½ ft. wide, composed of extraordinarily strong oxide of iron (though not a part of it is fit for iron ore), strong lepidolite of quartz, decayed sugar-spar of a beautiful description, mica, peat, and prian; the peat promises to make tin, it being in the caps of the lode, but the lode will make copper in depth; it is precisely like the lodes in West Cornwall, for one of which locality the miner working here might easily be mistaken, his clothes and person being as red as blood. "Like stuff from Carne Keye." South of this 10 fathoms is a second lode, or elvan course, running a few degrees north of east, and will form a junction with the former in the east, and also in depth, as it underlies, but 15°, whilst the former dips 25°. This elvan is of a light colour, and contains quartz, mica, and spots of yellow and black ore, but we think will not be valuable until it joins with the former lode, or reaches a cross-course, at a distance of about 80 fms. from where it is now seen. When these two lodes shall make home against this cross-course a good mine may be expected. The country is granite of a favourable description, traversed by numerous lodes and elvans. The country is large and promising. Near the mouth of the adits are extensive stream works, the whole valley having been wrought in ancient times, and said to have been very productive. On the east of this set is the Altarnun Consols, now idle, it is said not in consequence of the poverty of the mine, but of the death of one of the largest adventurers; if so it is to be regretted, as it is in a tin country, and would probably have paid well. On the south is Fox Tor and Halvener Tin Mines, which have returned tens of thousands of pounds worth of tin, the Leeds proprietors having documents to show which prove the produce to have been immense. The mine is no more than 30 fms. deep. It is said these two mines were ruined and stopped by bad management, and going to law (certain destruction). A company have purchased the dues for a certain specific sum, and are said to be about to commence operations; if so, it is something more than a "fair speculation," if the proprietors do not exact too high a premium.

HOLMBUSH MINE.—A mishap occurred here on the night of Thursday week, when a sudden eruption of water took place. On enquiring at the mine we learned the fact, but at that time it was said the engines were working it; still, the mine is seriously inconvenienced. Rum

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£112, 80 tons, 258L 17s. 6d.; and Bampfylde, 28 tons, 458L 2s. 6d.—The next sale, on May 25, will be 2115 tons, from Cobre, Cuba, Knocke, Berchoven, Spanish, Irish, Holyford, and Namaqualand.

At the sale of copper ores, at Redruth, on Thursday, the standard was 152L 1s.; average produce 6½; and price per ton 6L 0s. 6d. This was an advance (taking into account the difference of produce) of 3L 5s. upon the standard of the previous week; making a difference to the advantage of the miner of more than 4s. per ton of ore; and upon the total sale of 121 tons, nearly 900L more than the same ores would have realised in the preceding week. This is very encouraging, and there is reason to expect that the present upward tendency of the standard will be maintained.

The almost simultaneous rise in copper and tin during the latter part of last week, and to which we then referred, caused the SHARE MARKET to open with great buoyancy on Monday, and an active business has been kept up during the week. The demand for dividend shares has been

greater than for many months past, large purchases having been made for investment. The high rate of interest paid by many of the best mines, and the fair prospect of increased profits, would seem not only to justify this demand, but lead to the expectation of a still greater one; and for this reason there are no anxious sellers on the market. We understand that one or two large and well-known firms are about to become buyers of copper ores in Cornwall, and to enter into competition with the old smelting monopoly at the weekly ticketings; we hope, therefore, we may very shortly have to congratulate the miner upon still better prices for his produce, and more encouragement to his calling. Among copper mines in which a large business has been done, Bassett advanced from 215, 220 to 250, 225; the next dividend, in June, it is understood will be 6L per share, and a rise in copper would further improve profits. Bullershave been dealt in at 295 to 300. South Frances, from considerable improvements, have been in demand, with a great scarcity of stock, and in consequence the price has advanced from 220, 230 to 240, 250. Devon Great Consols remain steady at 470 to 475. South Cadron, 390 to 400, and in request. Grampier and St. Aubyns much enquired for; since the meeting the mine has further improved, and shares leave off at 115 to 117½, with the probability of a much greater rise in a few months. Mary Anna have been rather flatter, at 44 to 45. Trelawny, 23½ to 24½, buyers. Herodsfoot remain at 8½ to 9, without any business doing. East Bassett have been more freely offered, and price not quite so firm, at 96 to 98; the mine continues to look well, and will sample 100 tons of good copper ore next week. Great Alfred became in demand early in the week, from that excellent report received on Monday, but price rather receded, and left off at 5½ to 5½. North Basset, 11 to 11½, and much enquired for. West Bassett, 24 to 25. Wheal Grenville have been in demand at 14 to 2. Hindston Down has greatly improved; the lode in the shaft is worth 50L per fm. for the length of the shaft, and other parts also improved, causing a great demand for shares, and large transactions have taken place, the price leaving off at 5½ to 6. Great South Tolgus, 14½ to 15½. North Roskear in good request, price leaving off at 24½ to 25½. Lady Bertha have been more enquired for at 20s. to 21s. Providence Mines, 67 to 68, and rather less firm. Margarets, 55 to 55½. Margery, 11 to 11½, and not so much doing as might be expected, considering the improvements in the mine. East Russell's have fluctuated from 6 to 6½, and left off at 6½ to 6½; no mine of late has been the subject of so much correspondence and discussion as this, and shareholders are becoming bewildered in the multiplicity of opinions—one week excited to great expectations, and the next as much disheartened; this sort of wavering, causing as it does many sales, is a great boon to the "jobbers," but we should advise the shareholders, without reference to the denunciations of "theory," which in mining is very apt to be upset by practical results, to hold on patiently for a few months, and look to the progress of the 5s. fm. level towards the ore ground. We remember when the Devon Great Consols was first discovered, many miners considered the lode "too rich" to last, and the differences of opinion which it caused deterred the timid public from purchasing when shares could have been had at a low price. Holmash shares have been more enquired for, at 1½ to 1½; the lead lode seems to have improved, as the agent adds to his report, that having got the 132 level under the ore ground in the 120, he hopes in a short time to be able to raise large quantities of silver-lead. Redmoor, 6s. 6d.; it is now supposed that the lead lode in Redmoor and that in Holmash are two distinct lodes, and a cross-cut is to be driven in the former mine to intersect the Holmash lode. Drakewalls have been in considerable demand at 1½ to 1½, the principal buyers being near the mine, which it appears is leaving a profit on the tin, and a copper lode is expected to be cut, which may greatly enhance the value of the property. North Tavy, 30; Kelly Bray, 1½ to 1½; Merlin, 4 to 4½; Sortridges have been in good demand, and buyers of large numbers at 27 to 29; Yarners have been enquired for at 25 to 30, owing to the late discovery; South Tolgus, 67½ to 70; Pendene, 3½ to 3½; Wheal Edwards have been flat, and left off at 4½ to 5; St. Day United, 10 to 11, and more business transacted; Timcroft, 3½ to 4; North Frances, which had for some time been flat, became in demand late in the week, and left off at 7½ to 8½, buyers; Wheal Kitty, 9½ to 10½; Vale of Towy, 22 to 23; Alfred Consols, 11 to 11½, and more in request; East Gunnis, 14, to 14½; West Fowey, 8½ to 8½; West Par, 2; West Frances, 15 to 16; Wheal Harriet, flat at 2. Wheal Arthur, 4½ to 5½; this mine is still improving. East Alfred, 1½ to 1½, and have been more sought after.

At the Craddock Moor Mine meeting, on Wednesday, the accounts showed—Balance last audit, 1216L 16s. 4d.; ore sold and carriage, 1750L 14s. 2d. = 2567L 10s. 6d.—Mine cost, 1132L 2s. 4d.; merchants' bills, 269L 4s. 6d.; lord's dues on ores sold, 10s. 1d.; dividend paid, March, 369L 5s.; leaving balance in favour of adventurers, 1216L 6s. 1d. A dividend of 5s. per share was declared. Capt. John Taylor and John T. T. reported that they had cut Verco's lode in the 52 cross-cut south; it is about 2s. wide, and contains mica, quartz, and good stones of ore. The next sale will be, 225 tons of good quality copper ore.

At the Bampfylde Copper Mining Company meeting, on Wednesday (Mr. W. Roberts in the chair), the accounts showed—Balance at bankers, 1048L 6s. 1d.; and the ore sold and at market was estimated at 1100L; making a balance in favour of adventurers, 2146L 6s. 1d. A dividend of 312L 16s. (5 per cent. on 10,000 shares) was declared. Capt. J. Pope reported that, from the favourable appearances, he had no doubt it would prove a profitable mine. The ore sold at Swansea, on Tuesday, realised 48s.

At the Great Wheal Badarn special general meeting, on Tuesday, it was unanimously resolved that, in consequence of the discovery made since the meeting on April 27 the resolution to abandon the mine be rescinded, and that the report of Capt. J. H. H. Hill, received. Capt. John Jenkins reported that in the 61 end east the lode is 18 in. wide, producing 15 cwt. of lead ore per fathom. The stones above this level the lode is 18 in. wide, yielding about 1½ ton lead ore per fathom. In the 51 end, driving east of north in the killas, the lode is 1 ft. wide, turning 9 in. on 1 ton per fathom.

At the Crowndale Mine meeting, on Tuesday (Mr. W. A. Thomas in the chair), the accounts showed—Mine cost, Oct., 1856, to March, 1858, 1872L 16s. 6d.—Calls received, 1227L 2s. 4d.; merchants' bills, 269L 4s. 6d.; lord's dues on ores sold, 10s. 1d.; dividend paid, March, 369L 5s.; leaving balance in favour of adventurers, 1216L 6s. 1d. A call of 2s. 6d. per share was made, and the committee of management was re-elected. Capt. Jas. Richards reported that the dressing-rooms and grinder are getting ready with all dispatch, and they hope to be sufficiently advanced to admit of preparing 100 tons by next sampling.

At the East Hender Mining Company meeting, on May 1 (Mr. E. Oliver in the chair), the accounts showed balance against adventurers, 2146L 4s. 4d. A call of 1s. per share was made. Capts. Richard Pryor and N. Clymo reported favourably on the progress of the adventure.

At Trevenen and Tremenheere United Mining Company meeting, on May 1 (Mr. F. D'Arcy in the chair), the accounts showed—Balance at the last audit, 10s. 1d.; Mine cost, merchants' bills, 2s., Jan. and Feb., 514L 15s. 2d. = 662L 7s. 4d.; calls received, 264L 10s.; 10s. 1d.; 77L 2s. 6d.; leaving balance against the adventurers, 10s. 1d.; dividend paid, March, 369L 5s.; leaving balance against the adventurers, 10s. 1d. A call of 1s. 6d. per share was made, and the committee of management reported that, from what he had discovered, he was of opinion in draining the mine they would be able to pay the labour and all the pieces of ground left by the old workers contained rich branches of tin.

At the North Wheal Robert Company meeting, on Tuesday (Mr. Michael Hill in the chair), the accounts showed a balance in favour of adventurers of 761L 12s. 9d. and the net profit on the three months' working was 237L 13s. 5d. The proceedings, which are reported in another column, terminated with a vote of thanks to the Chairman.

At the Wheal Harriet meeting, on Monday (Mr. Dorrington in the chair), the accounts showed balance against adventurers, 16L 6s. 4d. A call of 2s. 6d. per share was made. The committee of management were re-appointed, and the proceedings, which are detailed in another column, terminated with a vote of thanks to the Chairman,

At the Rosewarne Consols meeting, on Monday (Mr. J. Robertson in the chair), the accounts showed a balance against the mine of 1093L 2s. 9d.; and a balance of liabilities over assets of 117L 2s. 6d. Messrs. T. Boorman, J. Robertson, and E. J. Wilson were elected a committee of management. A call of 2s. per share was made.

At the South Wheal Seton meeting, on May 6, the accounts showed—Balance last audit, 148L 1s. 1d.; mine cost, Jan. and Feb., 208L 7s. 1d.; merchants' bills, 74L 19s. 5d. = 426L 7s. 7d.—By calls, 400L; leaving debit, 26L 7s. 7d. A call of 1s. per share was made. Capt. Higgins' salary was raised from 6L to 8L 8s. per month; and Capt. Malachi Bath appointed superintending agent at 1s. 1s. per month. Since the meeting the lode in the shaft has improved.

At the Oola Mining Company meeting, on Monday (Mr. C. Smith in the chair), the accounts showed a balance against the mine of 31L 19s. 7d., and a balance of assets over liabilities of 98L 1s. 2d. Messrs. Palmer, G. F. Eland, C. Smith, T. Boorman, and E. J. Wilson were elected a committee of management. A call of 2s. per share was made, payable on May 24.

At the Gomangone Mine meeting, on Wednesday, the accounts showed—Mine cost, 775L 17s. 6d.; ore sold (lord's dues, 56L 6s.); 854L 1s. 1d.; leaving balance against adventurers, 54L 7s. 7d. Captain E. Pascoe and W. George, jun., reported that the next sale would be about 110 tons.

At the New Birch Tor and Vitifer Consols meeting, on Thursday (Mr. J. Rowlands in the chair), being the first meeting under the present company, the following resolutions and appointments for the future management of the mine were made:—Messrs. Rowlands, Bayly, Halsford, and Howard were nominated members of the committee; Mr. Walter Thomson, the secretary; Mr. J. Matthews, of Tavistock, purser; Capt. Leon of Welsh Franco, was requested to inspect and report on the mine; Messrs. Roberts, Curtis, and Co., to be the bankers of the company; and the committee to appoint the future captain, and to fix his salary. A call of 1s. per share was made.

The Cardiff Preserved Coal and Coke Company appears to be progressing very satisfactorily. In the first annual report, the directors state that the buildings and necessary machinery are erected for commencing operations on the premises, in order that the company may be in a position to construct and repair machinery at the smallest possible cost, with the advantage of keeping their designs and patterns in their own hands, also be in a position to meet the requirements of the business as it gradually develops itself. The machinery works in a very satisfactory manner, and the produce sent out in sample orders has been highly approved; many applications are constantly being made for this material, which is now shipped at Cardiff; additional buildings and machinery to meet the demand are in progress. The accounts have been audited by Mr. F. T. Barnard, of Bristol, and the balance sheet is drawn up to March 31. The affairs of the company are conducted with rigid economy, and it is satisfactory to add, the original calculations upon which the operations of the company are based have been found to be correct.

At the Gwaelor Mine, it is reported that a complete change has taken place in the management since the resignation of Mr. Vawdry as purser.

At the Crowndale Mine, a great improvement has taken place during the week. The lode in the winze is worth 120L per fm.

The Bog Mine sampled this week 28 tons of good lead ore.

At St. John del Rey Mining Company adjourned meeting, on Tuesday (Mr. J. D. Powles in the chair), for the purpose of completing the revision of the regulations of the company under the Joint-Stock Companies Act, an amendment was proposed to rescind the alteration in the allowance to the directors, that it should be 500L instead of 800L, and that there should be no managing director. The resolution was however carried, thus awarding the original remuneration to the directors, and leaving the appointment of managing director unaltered. It was also proposed that the allowance to the auditors should be 20 guineas per annum each, instead of 10 guineas. The remainder of the clauses were discussed *seriatim*, and in the amended form were unanimously passed. The meeting for confirmation was appointed to be held on June 15 next.

At the Rossie and Canada Lead Company, limited (Mr. W. Cox, M.P., in the chair), the accounts showed—Cash at bank, 203L 0s. 7d.; in hands of Capt. Trelease, 22L 5s. 10d. The proceedings, which are fully reported in another column, terminated with a vote of thanks to the Chairman.

At the Minesota Mine (Lake Superior) meeting, held at New York, on March 10, a highly favourable report was presented. The only serious inconvenience occasioned to the company by the disastrous state of the metal and money markets last fall was temporary impairment of the dividend payable Nov. 1 last, which, however, was soon restored by a few stockholders, and though, of course, imputable to all, the directors are now more than ever satisfied with a necessary and prudent course. The accounts showed a balance in hand, in cash and bills, receivable March 1 last, \$215,264 47. The statement shows the probable amount of net earnings, from which the semi-annual dividends for May and November next will be forthcoming. With respect to the former, however, finding themselves in a position, from recent large sales of copper for cash, to anticipate its payment, the directors have declared a semi-annual dividend of \$6 per share, or 12 per cent. on the capital stock, payable on April 1, instead of May 1. The whole quantity of mineral produced from the mine during 1857 was 2638 tons of mass, barrel, and stamp copper, being an average of 171½ tons per month for the year, against 155 tons per month the previous year, and showing an increase of 198 tons, equal to 10½ per cent., in the aggregate product of 1857, as compared with that of 1856.

At the Western Australian Mining Association meeting, at Perth, on March 4 (Mr. G. Shenton in the chair), the accounts showed a balance of 15L 19s. 1d., including the advance received of 15L per ton upon the shipments of 350 tons of ore. The operations were proceeding most satisfactorily; ores of a very rich quality of black oxide were being raised in considerable quantities, and about 20 tons of grey ore, estimated to yield 50 per cent. of metal, had been obtained. Malachite, giving 35 per cent. of metal, had been got from a depth of 18 in. below the surface. A specimen was exhibited at the meeting from a lode which crops out about one mile from Waneroo Mine, and all through from the surface yielded 15 per cent.; this lode is traceable for miles, and has, where the specimen was found, a very promising appearance. Messrs. Shenton, Knight, Padbury, Leake, Carter, Stone, and Barker were elected the first directors of the company. The mineral prospects of the undertaking are all that could be desired, yet the property has been purchased at the ordinary price of land.

Our Leed Correspondents (Messrs. Gledhill and Co.) report an evident improvement in the demand for shares in the mines of the North; many have changed hands at advanced prices. Craven Moor is making a stir, and business done to some extent. The shareholders in the Yorkshire Mine are in great hopes of making their long-delayed discovery, a change having taken place in the end of the level; should this cut rich it will do much good to mining in these parts. Wheal Henry (Helvellyn) Lead Mine is progressing favourably. The deep level at Helvellyn Consols is getting on with all speed. There is an increased good feeling for this description of property, and it is evidenced by parties inspecting the different mines before investing. Several gentlemen are about to visit the Cumberland Mines for that laudable purpose. Deputations have been sent to other mines, which tend to give confidence.

Our Hull Correspondents (Messrs. T. W. Flint and Co.) report that the market has been affected by political rumours, but fluctuations have not been to any important extent. Money remaining cheap, there has not been that disposition to realise which otherwise would have doubtless exhibited itself. Guaranteed and preference shares are taken readily at current rates, and are absorbed almost as soon as offered.

Our Sheffield Correspondent (Mr. George Wilson) reports that the only business done in the mining share market this week has been in Cowden Rakes, several times, at 6s. prem.; and Eynes at 47. The quotations, however, are about the same as last week. Within the last few days the Cowden Rake Mines, near Bakewell, have been visited and carefully examined by the committee and Mr. S. F. Holmes, the surveyor. The set is extensive, being about three miles in length, with a number of veins running through it, in various directions, some of which have been extensively worked upon, particularly the Mogshaw vein, which forms a junction with the Cowden Rake vein about the middle of the property. The Magpie and the True Blue are also upon the Mogshaw vein, from which immense quantities of ore have been raised; and there is every reason to believe, when the Cowden Rake Mines are sufficiently opened, they will become a valuable property, which must be very gratifying to the shareholders.

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At the Craddock Moor Mine meeting, on Wednesday, the accounts showed—Balance last audit, 1216L 16s. 4d.; ore sold and carriage, 1750L 14s. 2d. = 2567L 10s. 6d.—Mine cost, 1132L 2s. 4d.; merchants' bills, 269L 4s. 6d.; lord's dues on ores sold, 10s. 1d.; dividend paid, March, 369L 5s.; leaving balance in favour of adventurers, 1216L 6s. 1d. A call of 2s. 6d. per share was made, and the committee of management was re-elected. Capt. John Jenkins reported that in the 61 end east the lode is 18 in. wide, producing 15 cwt. of lead ore per fathom. The stones above this level the lode is 18 in. wide, yielding about 1½ ton lead ore per fathom. In the 51 end, driving east of north in the killas, the lode is 1 ft. wide, turning 9 in. on 1 ton per fathom.

At the Crowndale Mine meeting, on Tuesday (Mr. W. A. Thomas in the chair), the accounts showed—Mine cost, Oct., 1856, to March, 1858, 1872L 16s. 6d.—Calls received, 1227L 2s. 4d.; merchants' bills, 269L 4s. 6d.; lord's dues on ores sold, 10s. 1d.; dividend paid, March, 369L 5s.; leaving balance in favour of adventurers, 1216L 6s. 1d. A call of 2s. 6d. per share was made, and the committee of management was re-elected. Capt. Jas. Richards reported that the dressing-rooms and grinder are getting ready with all dispatch, and they hope to be sufficiently advanced to admit of preparing 100 tons by next sampling.

At the East Hender Mining Company meeting, on May 1 (Mr. E. Oliver in the chair), the accounts showed balance against adventurers, 2146L 4s. 4d. A call of 1s. per share was made. Capts. Richard Pryor and N. Clymo reported favourably on the progress of the adventure.

At Trevenen and Tremenheere United Mining Company meeting, on May 1 (Mr. F. D'Arcy in the chair), the accounts showed—Balance at the last audit, 10s. 1d.; Mine cost, merchants' bills, 2s., Jan. and Feb., 514L 15s. 2d. = 662L 7s. 4d.; calls received, 264L 10s.; 10s. 1d.; 77L 2s. 6d.; leaving balance against the adventurers, 10s. 1d.; dividend paid, March, 369L 5s.; leaving balance against the adventurers, 10s. 1d. A call of 1s. 6d. per share was made, and the committee of management reported that, from what he had discovered, he was of opinion in draining the mine they would be able to pay the labour and all the pieces of ground left by the old workers contained rich branches of tin.

At the North Wheal Robert Company meeting, on Tuesday (Mr. Michael Hill in the chair), the accounts showed a balance in favour of adventurers of 761L 12s. 9d. and the net profit on the three months' working was 237L 13s. 5d. The proceedings, which are reported in another column, terminated with a vote of thanks to the Chairman.

At the Wheal Harriet meeting, on Monday (Mr. Dorrington in the chair), the accounts showed balance against adventurers, 16L 6s. 4d. A call of 2s. 6d. per share was made. The committee of management were re-appointed, and the proceedings, which are detailed in another column, terminated with a vote of thanks to the Chairman,

At the Trevenen and Tremenheere United Mining Company meeting, on May 1 (Mr. F. D'Arcy in the chair), the accounts showed—Balance at the last audit, 10s. 1d.; Mine cost, merchants' bills, 2s., Jan. and Feb., 514L 15s. 2d. = 662L 7s. 4d.; calls received, 264L 10s.; 10s. 1d.; 77L 2s. 6d.; leaving balance against the adventurers, 10s. 1d.; dividend paid, March, 369L 5s.; leaving balance against the adventurers, 10s. 1d. A call of 1s. 6d. per share was made, and the committee of management reported that, from what he had discovered, he was of opinion in draining the mine they would be able to pay the labour and all the pieces of ground left by the old workers contained rich branches of tin.

THE PROGRESS OF MINING IN 1857,
BEING THE FOURTEENTH ANNUAL REVIEW.
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PLAN OF VENTILATING COAL MINES. By WM. HORTON. 3s.

Notices to Correspondents.

** Much inconvenience having arisen, in consequence of severa of the Numbers during the past year being out of print, we recommend that the Journal should be regularly filed on receipt: it then forms an accumulating useful work of reference.

ANTIMONY.—"J. C. T." (Burton-on-Trent).—There is a moderate sale both for antimony and antimony ore, but there is no regular market. London and Birmingham are the best places to sell. The sulphide (often called crude antimony) is the ore usually smelted. It occurs in masses, consisting of needles closely aggregated, of a metallic lustre and lead-grey colour. The needles are brittle, melt in the flame of a candle, and exude a sulphurous smell. This ore consists of nearly 75 metal and rather more than 27 sulphur. Red antimony, oxide of antimony, and antimony-ore also occur, but are not usually smelted. Red antimony contains 76 1/2 per cent. of the metal, 4 1/2 per cent. of oxygen, and 19 per cent. of sulphur; oxide of antimony contains about 54 1/2 per cent. of the metal and 15 1/2 per cent. of oxygen; and antimony-ore about 76 per cent. of the metal, 18 1/2 per cent. of oxygen, and 5 1/2 per cent. of water.

DEVONSHIRE "SHINY ORE."—"F. T." (Exeter).—This substance appears to be a poor micaeous iron ore, which would be comparatively unsaleable and would realise a very low price. It is principally used for adulteration. Graphite is described by Dr. Ure as a mineral substance of a lead or iron-grey colour, metallic lustre, soft to the touch, and staining the fingers with a lead-grey hue. It is easily scratched or cut with a steel edge, and displays the metallic lustre in its interior; burns with great difficulty in the outward flame of the blow-pipe. It consists of carbon in a peculiar state of aggregation, with an extremely minute and apparently consistent admixture of iron. The most precious plumbago deposit, both in reference to extent and quality for making pencils, exists at Borrowdale, in Cumberland. It has also been found among the coal strata near Cumnock, in Ayrshire. Micaeous iron ore is not at all uncommon, it occurs in Cornwall, Devon, Gloucestershire, Lancashire, and Cumberland, and in many parts of Scotland and Ireland. A company was formed in London and called the "Devon Borrowdale Plumbago Company," for the purpose of working the Hencken shiny ore, but as there was no real plumbago to be found the imitation substance could not be sold, and the company was consequently abandoned.

DEVON GREAT ELIZABETH.—"An Old Cornwall Royalist" considers that Mr. A. Harvie, Navy Hotel, Plymouth, should acknowledge that the statements in his letter, in the Journal of Dec. 26, have been disproved. Much annoyance was caused at the time by the publication of his misgivings, and it is only fair that he should now state that they were unfounded.

WHEAL ZION.—The report of the agent at last tells us that the mine is unproductive, and it is now desirable to wind-up. The *Mining Journal* report of last Saturday says two alts are only to be continued, this being almost a total abandonment; while the Chairman (Mr. Hodgson) is of opinion that under a new set of adventurers it will be successfully carried on. How are we to reconcile these opposite opinions. Even to the last in Wheal Zion there must be a difference. If others can carry it on, why should not we? The glebe land, it was expected, would turn out, I may say, a mine of itself, after all the promises made by the agents. Are these only to result in nil? I was certainly of opinion that some of our proprietors would not have abandoned the ship until she was irretrievably lost. The die, however, appears to be cast, and the end of all our troubles, disputes, and changes of management, has resulted in a total loss. Surely, it would have been better that Mr. Price's motion for winding-up should have been carried two years since, when the proposition was first mooted.—D. H.

PRECIOUS METAL MAKING.—I, as well as many others interested in gold mining, had with some degree of satisfaction that Mr. Squire's process at last is to obtain a practical solution; that is, as far as his manipulation is concerned. With but very few exceptions, I believe that the property (where it existed) of nearly all the gold mining companies is either leased, mortgaged, or forfeited. How, out of anything so heterogeneous, anything homogeneous can be formed, I am at a loss to discover. By no means wish in any way to impugn Mr. Squire's discovery, or set my opinion against those of his numerous friends who have confidence in him. I trust he will neither deceive them nor delude himself, but when I call to mind the numerous adventures that have been formed for gold making, I can only recollect one that has really paid; I allude to the process of Mr. Hiram Berlin, and of this there are invidious people who infer the gold produced was not owing to his machinery, but simply to the fact that it was salted. I cannot forget the flaming article which appeared in the *Times*, not a short 12 months since, on Mr. Harris's wonderful rotating magnets, at Frodsham, which it appears, owing to certain circumstances, no longer revolve, and I often ask myself where it will end? Let Mr. Squire have a fair chance, and as soon as he obtains a practical result he will receive quartz enough to crush. Let him be careful, however, to the stockholders have lost much; the preference shareholders have received their 7 1/2 per cent. regularly since the resumption of the mine, and if these gentlemen, who have benefited so much by the labour of the workmen, were to relinquish for this praiseworthy object but a small portion of the dividend, it would be a graceful act on their part; this, however, should be done immediately. They must remember the old adage, "Bis dat qui cito dat."—AN OLD PROPRIETOR.

WINDING-UP RAILWAYS.—You were kind enough to explain a few weeks since a difficulty which I found in reading the Winding-up Act. Would you further oblige by informing me how an incorporated railway is wound-up? Does the Railway Abandonment Act of 1850 continue in force?—LEX: *Pond-lane, Hampstead*.

"The winding-up of railways is governed by the following statutes:—7 and 8 Vic., c. III.; 9 and 10 Vic., c. 28; 11 and 12 Vic., c. 45; and 12 and 13 Vic., c. 108. But the above Acts of Parliament, although they embraced unincorporated railway companies, did not originally apply to railway companies incorporated by Act of Parliament, they being expressly excepted from their operation. This defect was not remedied until the passing of the Abandonment of Railways Act, 1850 (13 and 14 Vic., c. 83), which is now in force. By this Act the Board of Trade may, in certain cases, by warrant, authorise the abandonment of a railway. If the circumstances of a railway are peculiar, and require powers not within the above Acts, an Act of Parliament should be obtained specially, authorising the dissolution, and settling the terms of it.]

COPPER ORE ASSAYS.—A correspondent wishes to know the name of an assayer of copper and other metals, whose authority no one would dispute. Both in London and elsewhere there are several gentlemen of undoubted acquirements in their profession; it would, therefore, be invidious to name any particular individual. Discrepancies often occur in assays, and the difference between the wet and the dry process is frequently very considerable. Some gentlemen are in greater repute than others, and consequently their names carry with them a certain weight, while in particular local districts the parties who are established there have great renown, and consequently command much influence. The difference of 1/2 per cent. between two assays in rich ore is not of much consequence; it is, however, a great object of consideration when the minerals treated are of low percentage. To arrive at the value of a pile of ore of any kind, it is not only necessary that it should be correctly assayed, but likewise fairly sampled, and from this not being properly carried out, many great differences arise, as all know, in instances where samples have been prilled, or otherwise.

GREAT WHEAL BUSY, AND THE COST-BOOK SYSTEM.—I noticed the very just remarks under this heading in your valuable Journal of May 1, signed "A Friend"; I hope they will meet with the attention due to them, and that they will have their proper weight with all spectators; for there is no doubt in my mind that Mr. E. M. and "A Friend," whatever the latter may be, are perfectly right in what they say, and, although I am not a shareholder in Great Wheal Busy, I hear by some of our best mining authorities that there can be no doubt that it is one of the safest speculations in Cornwall; and if the remarks of Mr. E. M. and "A Friend" are correctly attended to, it is my belief that, even with the present price of tin and copper, under good managers, we shall not only see Great Wheal Busy amongst the first dividend-paying mines, but many others soon brought to pay well that are now making calls.—A WELL-WISHER.

"F. W. S." (Arundel).—The suggestion will be attended to.

ANGLO-CALIFORNIA GOLD MINING COMPANY.—At our last meeting, in July, we were formally told that Sir Henry Huntley had been dismissed the service of the company, and as this was a meeting for the purpose of dissolving the concern, I see no reason for doubting the statement of the directors. Surely, however, the valorous slave-curturing knight has let his mantle fall on the shoulders of the liquidators; not only do they use any influence as to their proceedings, but they do not even afford us the excuse which our factious superintendent was wont every mail to anuse us with, until these, owing to Mr. James Dunn of Kerry, having the property, were no longer available. At least, if we had been in Chancery we should have received some information in the course of ten months.—LEX: *Leeds*.

COLLIERY OPERATIONS—"Boring."—Referring to the article in last week's Journal, perhaps Mr. Kind will favour us with the cost of boring a hole in the coal measures, 12 in. diameter and 1000 ft. deep?—M. E.

ADELAIDE LAND AND GOLD COMPANY.—After the sensible remarks of your Paris correspondent, in last week's Journal, I should think the liquidators would see the propriety of rendering an account of their stewardship. I know the solicitor and his coadjutor, and have faith in their ability to conduct the business entrusted to them; but, after all, they are open to the common suspicion of men empowered to discharge a trust which they may exercise for their own advantage. Act wisely, gentlemen, and impart some of the knowledge you obtain for the guidance of others as much interested in the concern as yourselves, and who have a right to participate in the profits that may arise from any contingency.—N. : *City, May 13*.

PATENT LAW AMENDMENT.—I perceive, by perusing Wednesday's debate, that the bill for this purpose has been thrown out of the House of Commons; and here I must make a remark upon your correspondents, the patent agents. I perceive that, through the columns of the *Mining Journal*, they are severally and individually willing always to incite any dictum they may propound, but whenever their opinion is required they appear to ignore the question which has been asked, and maintain a dogmatic silence. In fact, it appears to be their maxim that, when a doubtful point is mooted, the solution should be argued at in their chambers, by the payment of a fee, and not through the medium of a public journal, this being, however, considered an admirable vehicle for expressing opinions which they believe are as immutable as the laws of the Medes and Persians were in their day.—INVENTOR.

NEW TRELEIGH MINE.—In the report of this mine, inserted in the last Journal, instead of "Should this lode be found to improve to the 60, which we shall reach in about eight months from this time," it should be two months.

ALTEA MINING ASSOCIATION.—Some time since you announced authoritatively that the annual meeting of this company, which should have been held in November last, was to take place either the latter end of April or the beginning of May; half of the latter month has now expired, yet no announcement appears, and with the exception of the mining reports, which are now of the most meagre description, we are perfectly in the dark as to the state of our property, or the benefits we are presumed to have derived from amalgamating with the Quinsengrange Association. Possibly it is the intention of the directors, as there are now two companies in one, that the meetings should be biennial.—W. C. : *Cardiff Town*.

WESTERN AFRICAN MALACHITE COMPANY.—In your Journal of May 1 you refer to this company, but the statement is not altogether clear to me, since you first refer to a lease and then to a concession. I would like to know which the company will have. I understand a concession to be a grant to work the minerals for ever—at least that is what a concession is in our country, and that is the only condition upon which I would work minerals at all. I wonder that the short-lease system works so well in England, but if this new African company has only obtained its property for a limited term of years, its position would be many times worse than any English company. Perpetual leases are best both for proprietors and lessees, and no doubt that system will ultimately be introduced into England. As to the Western African Malachite Company, I think it seems curious that the vendors should be so extremely ready to part with their shares; as if the property was anything like what they represent, I would ask—why do they sell their shares at such a small premium? Surely Messrs. Taylor will give some information as to the certain privileges possessed.—W. C. : *Cardiff Town*.

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WHEAL EDWARD (TAVISTOCK).—The paragraph on this mine, which appeared in your Journal of April 10, signed "Looker-on," being attributed to me, caused, no doubt, Capt. East to reply with a challenge to me to prove mismanagement. As I am not the author of the said paragraph, or know from whom it emanated, neither inclined to quarrel without cause, but more willing that every horse should wear its right saddle, and also wishing to convince my neighbours, I will thank you to make the assertion in your next publication. In reference to the said mine, I refer the parties who appear grieved in this matter to past reports of mine, both public and private, and if there is any portion of such reports which they can contradict or confute, I am open to any enquiry from them, but must decline the "hot-water bath" until needed.—JOSEPH HODGE: *Gunnis Lake, Tavistock*.

T. J. (California).—On enquiry at the office of the news agent referred to by our correspondent, we were informed that the *Mining Journal* is regularly posted the day of publication to the address, New Almaden, California, and enquiry should be made at the Post-office there.

Rossie and CANADA LEAD COMPANY (Limited).—The present direction of this company have just issued a new prospectus, different to that issued by the company in 1856, which certainly appears to require explanation. The one just issued is to induce the public to take up a certain number (not stated) of unallotted shares. Will the company explain these points?—In the prospectus of 1856, "The company is organised for working three very extensive lead mines, at Rossie, on the south side of the River St. Lawrence, and at Bedford, north of Kingston, in Upper Canada, which, with steam engines, &c., have been purchased through Messrs. Baring Brothers, London. Two of the mines are held for a term of 20 years, at a royalty of 1-15th, while at the mines at Bedford, in Canada, a privilege to purchase at 5s. per acre is held for twelve months, the extent of the property being 2000 acres. The sellers have consented to receive the whole payment in shares of the company, with the exception of 50000. A reservation of 25,000 of the company's capital is for general purposes, but it is believed that in consequence of the advanced state of the mines *not more than one-half of this sum will be expended to realise a handsome dividend upon the capital of the company.*" In the prospectus just issued, "The mines of this company are *two (not three) in number, &c.* (No mention is made of the Bedford Mine, in Canada)." "The amount paid for the mines, for transfer of the stock of the company, &c., together with some lead and ore then on the mines, was 40,000/00, in paid-up shares." No mention is made of "With the exception of 50000," therefore, only 20,000/00 could remain to work the mine, instead of 25,000/00, as stated in the prospectus of 1856. Why this change in the purchase arrangement? Why has the valuable privilege to purchase the Bedford Mine been thrown out of the new prospectus?—C.

COMPANY OF COPPER MINERS IN ENGLAND.—From a circular which has been issued by Mr. Gilbertson, the managing assistant, it would appear that the appeal made by him, in order to assist the Church and School Fund, so early as 1853, has not met with a sufficient response from the proprietary, and that there yet remains 18992.3s. 7d. to be collected. The report of Mr. Stannard, employed to inspect the schools by the Dean of the diocese, states "That the teaching of the Oakwood Schools reflects the highest credit upon the teachers in every respect; the attainments of the children in religious knowledge are very superior." He likewise favourably reports on the Bryn School, as well as that at Cwm Avon, and that in all the schools the catechism is taught to all children whose parents make no objection. The total number on the books at Cwm Avon was 1619, and the daily attendance 738. Last year the Rev. H. W. Belgrave, and Mr. J. Bowditch, Her Majesty's Inspectors of Schools, examined a large number of candidates at Swanscombe, sent from the schools of the mining districts, and 15 of the children belonging to the company's schools competed for the prizes. The result was as follows:—Six obtained a second class, and nine a third class, in secular knowledge; and eight out of the fifteen also obtained what was termed a double-first in scripture. In addition to this, Mr. Gilbertson further states that both the Baptist and Calvinistic denominations of dissenters have built large and commodious chapels on the company's property since they resumed the works; these have large Sunday schools in addition to those in connection with the Church of England; and besides the schools already mentioned there are two adult evening schools, one for males, the other for females, as well as a drawing class for young mechanics in the employment of the company. There can be no question but that it is incumbent upon us to provide for the spiritual welfare and accommodation of our workpeople.

and to show how nearly they approach each other in theoretical and true value, we give the following tabular statement. As the values of all are not shown in the Government reports, we take the analyses as we find them in these reports, and reduce them by DULONG's formula.

Description.	Character of Coal.	Number of lbs. of water convertible into steam by the carbon of 1 lb.	Number of lbs. of water convertible into steam by the coal of 1 lb.	Total number of lbs. of water convertible into steam by 1 lb. of coal.
SOUTH WALES.— Anthracite, Jones, Anthracite, and Co.	Anthracite	12.563	2.030	14.593
Dulver, Powell	Semi-anthracite	12.126	2.968	15.092
Ebbw Vale	Free burning	12.335	3.300	15.635
North WALES.— Cilcain	ditto	10.145	2.658	12.803
Brymbo Main	10.698	2.522	13.220	
Brymbo two-yard	ditto	10.734	2.930	13.664
WALES OF ENGLAND.— Willington	ditto	11.926	2.788	14.714
Adams' House, Tanfield	ditto	11.757	3.079	14.836
Broomhill	ditto	11.225	3.638	14.863
SCOTSMAN.— Blackbrook, Little Dell	ditto	11.362	3.195	14.557
East Hall, Pemberton Yard	ditto	11.098	3.422	14.520
East Hall, Arley	ditto	11.350	3.159	14.539
SCOTLAND.— Wellwood	ditto	11.178	3.541	14.719
Yerl Spath	ditto	10.933	2.884	13.817
Gougenmouth	ditto	10.970	2.722	13.692

The boiler they selected for the practical trials was a fair type of the form then most in use in the Navy. Since that time the multitudinous boiler has become the general form; and as the semi-anthracite coals seem to be most easily dealt with under this, they have, during the last few years, come largely into use; but we cannot doubt the fact that some *improved boiler* or *plate* may soon again displace this latter variety of coals from the high position they now hold. Whether the late experiments, as reported by Messrs. ARMSTRONG and others, show how this can be done, we do not at present decide; the steam companies of Great Britain are the jury empanelled to try this case, and will, no doubt, in the end give a just verdict.

We will briefly review some of the practical points of difference in the steam-coals of this country. The only districts where coals are produced to any extent for marine purposes are Scotland, the North of England, Lancashire, North Wales, and South Wales. The principal difference in the practical value of all these coals arises from their physical structure.

The Scotch coals are free burning, and, like all this variety, give off smoke,

unless great care is used in the stoking, are very wasteful under short tubular boilers; they work well for short voyages, where tonnage room is not much value.

The North of England coals are free burning, bear exposure to the weather, break readily in pieces of a fit size for firing, and

do not give much small or dust, and are entitled to much of the merit

claimed for them in the report of Messrs. ARMSTRONG and others to which

we have referred. The Lancashire and North Wales coals are free burning, and in the trade are classed nearly as the Scotch coals. The South

Wales field contains all the varieties of steam-coals. Commencing at the

western end, in the neighbourhood of Milford Haven, we find anthracite,

and this extends eastward to the Vale of Neath. We now come to a semi-

anthracite coal, and follow this to the Rhymney Valley, where it becomes

free burning, and then on to Blaenavon, where it becomes almost too bituminous for steam purposes.

Much has been said of the superior value of anthracite coal—its purity, freedom from smoke, and the large amount of carbon it contains, and all these good qualities we must admit; but in practice the public have so far not been able to obtain the advantage of them. The compact mechanical structure of the coal prevents its rapid combustion under the boiler, and the intense local heat it gives off is, without great care, apt to melt the fire-bars; and some special form of grate, and very careful firing, being required in its use, it has not yet been largely consumed. The semi-anthracite coal was introduced a few years since, just at the time when multitudinous boilers were coming into use for marine engines; and as it possessed some qualities which met the exact requirements of the time, it has been very largely used, and obtained a high reputation. This class of coal gives very little smoke in burning, does not require much skill in stoking, and produces a hot flame, well adapted for short boiler flues or tubes; its disadvantages are, however, serious. It is said to crumble, or decrepitate, by the action of the weather, and the small will not burn in the grate; much of it contains large quantities of pyrites, which not only reduces its available heating power, but rapidly destroys the boilers and fire-bars; still it is a favourite, and no doubt a valuable steam-coal. The free burning coal of South Wales was the earliest used for steam navigation. A series of experiments were first made at Bristol, on the practical economic value of different varieties of coal for steam navigation, the result of which was to determine the coal to be used in the *Great Western* steam-ship on her first voyage. The decided superiority of the Welsh free-burning coals, under the shaped boiler they then used, was unexpected; and its economy in raising steam completely satisfied the projectors as to the successful result of their enterprise.

Many of us well remember the national joy upon the return of the *Great Western* from New York, and, as was then aptly remarked, "having carried a steam-bridge over the Atlantic." The coal used in this ship was from the Tredegar Valley. Ocean steamers were soon multiplied; the West Indian Royal Mail Company, CUNARD'S Line; the Peninsular and Oriental Steam Company, and others, were large consumers of steam-coal, and thus this important trade was gradually developed. For a time the coal of South Wales was the only variety believed to be suitable for ocean steam navigation, and that district obtained a monopoly of the trade.

The scientific and mechanical engineers have already taken up this subject, and show us plainly that they are able, to some extent, to follow out the facts eliminated by the men of chemical science, and other coals can be advantageously used. At the same time, we must not conceal the fact that, theoretically, the free-burning coals of South Wales stand first on the list; and practically they do so also. The Ebbw Vale Works are now sending by rail to Liverpool, over a distance of 150 miles, large quantities of coal to supply the British and American ocean steamers; and experience seems to teach these companies the greatly higher price paid for these coals is *true economy*, as they are used under their *present* boilers. Our aim is not to advance the claims of any particular district, or even to judge between the public and the steam-coal proprietors; we try to elucidate the matter by plain and practical remarks, and induce men to work it out. Our columns are always open to discussion on this point, and we do our duty to society in claiming thoughtful attention to this important subject.

The Minister of the Interior of the Austrian Empire has issued a circular, inviting the attendance of scientific persons connected with mining, metallurgy, and mineralogy, to meet in Vienna, there to read papers, and discuss subjects, connected with their various departments, as it would appear nearly under the same phases as that adopted by the British Association. Mr. WARINGTON SMITH, on the part of the Government School of Mines, has left to attend this highly important and useful meeting, and we trust that on his return we shall be enabled to offer our readers information of what has transpired at this Mining Congress of Vienna. Unlike its great predecessor of 1815, it will not have to parcel out the map of Europe either into territories or kingdoms, though it may possibly effect some divisional changes in its mineralogical and geological features.

From the lack of information afforded by the Austrian circular, we are unable to state what will be the subject brought under discussion, or whether the experiment of a Congress of mining men will lead to any ultimate and beneficial results. This, we believe, is the first meeting specially convened for this purpose, and although it may not be so productive of advantage as the Minister may anticipate, yet we cannot but think that it is a step in the right direction. The interchange of thought leads to discussion, and information can then be elicited from various parties, which may tend to a natural benefit to all.

Should this meeting be productive of the dissemination of mining knowledge from the one district to the other, there can be no question but that it will be a great benefit. There are often those who are capable in one district, find themselves sadly at fault in others, and the practice acquired in one locality is oftenest comparatively worthless in another. A comparison of notes, at stated periods, will do much to obviate this, and many of the mistakes that are now made will be avoided, and much reckless ex-

pense spared. It would be futile, at this present time, to state what good might result from a comparison of the different systems of working in our own coal districts, as well as the methods pursued where metallic mines are worked: the present Congress at Vienna, it would seem, is an experiment, and, as all such things are, will probably be capable of many modifications and great improvement. As the largest mineral-producing country in the world, we cannot but regret that the first meeting of this kind was not held in the metropolis of the globe. As far as regards mining, despite our practical experience, until within the last few years it has not been cultivated by Englishmen so scientifically as it merits deserve.

A better and more intelligent era is now dawning; and in the course of a few years, as the light of knowledge is diffused, in addition to the practical acquirements which the English miner is known to possess, he will have obtained that scientific acquaintance with the objects he comes in contact with, so that he will be able to compete with any foreigner.

A Congress of this kind in Cornwall or elsewhere would upset the pretensions of the numberless pseudo-scientific pretenders who are wandering through the country, foisting, for their own purposes, delusive schemes upon the public, and rendering the name of mining a disgrace and reproach: when science and practice are combined, the vocation of these knaves will be at an end. Geology and mineralogy, the two sciences most associated with mining, although in the present century they have greatly progressed, are still involved in much obscurity; there is a vast field yet open for enquiry, and the student who follows this will be enabled, in the words of SHAKESPEARE, to read "sermons from stones."

were better to tolerate the government of India by a joint-stock company than to continue that administration; but "let right be done" and both the mining and manufacturing communities will be benefited. Mr. BAINES (the former Chancellor of the Duchy) did not in the least object to any inquiry as to what had occurred during his period of office; but the question was whether the remedy was by select committee or by an application to the courts of law. We should decidedly say the latter. What are the circumstances connected with these districts? The manor of Newcastle-under-Lyme has belonged to the Duchy of Lancaster ever since the origin of the Duchy, the records of which afford the clearest proof that mines of ironstone had been worked as far back as the reign of RICHARD II.—five centuries ago. The complainants are copyholders of Newcastle-under-Lyme, and a person taking a copyhold takes it subject to the custom of the manor in which it is situate. It has been found by the verdict of a jury that an immemorial custom exists in that manor affecting the copyholders—that where minerals are of greater value than the surface there shall be the right of getting at the minerals without incurring any liability for injury to buildings on the surface; and upon this understanding those who have purchased copyholds on that manor have obtained them for 40 or 50 per cent. less than they would otherwise have done. Moreover, for the last 40 years whenever any person has manifested the intention to build he has been served with a distinct notice by the lessee of the minerals that if heavy buildings were erected they would be liable to disturbance if it should become necessary in the working of the mine.

It is true that in the course of last year fifty or sixty letters were addressed to the office of the Duchy, many of them in the same hand-writing. Those letters were sent to the agents of Earl GRANVILLE, and a report was made by him; and it appears that there is a great deal of exaggeration in the complaints. Nineteen of the cases occurred in places where there were no mines near, and it was shown, with reference to some of these, that the parties had been excavating marl and clay; that they had filled up the cavities with rubbish and built upon it, and the foundations gave way; eleven of the cases occurred twelve or sixteen years ago, and in one case the party was distinctly warned that coal had been excavated. In another case a man had written both to the Duchy and the lessee stating to one that his loss was 100*l.*, and to the other 22*l.* There were in all fifty-seven complaints; but with regard to more than one-half of them the damage has been falsely attributed to mining operations. Lord GRANVILLE expresses his readiness to give every facility for trying the matter at law, and the House very properly decided to leave this strictly legal question to be settled in the ordinary way.

We have before had to allude to bankrupts attributing their ruin to mining adventure, and think we have fairly proved that they have no just ground for so doing; and with respect to the complaint of the Hanley potters, we have no doubt but that mining operations will be found to be equally guiltless.

METHOD OF DISCOVERING AND DESTROYING HYDROGEN, CARBURETTED HYDROGEN, AND OTHER GASES IN COAL MINES.

—An apparatus for this purpose has been invented by Mr. Addison, of Bombay (2727). He places a cord or wire, extending from one end of each working in a mine to the other end, and fastened to the roof of the working by hooks at each extremity, so as to be removable at pleasure. To this cord or wire are attached by silk threads some small balloons a few inches in diameter, and inflated with hydrogen or other light gas. The threads are to be of a length sufficient to admit of the balloons either ascending to the roof or descending to the floor of the working. If the mine is clear of hydrogen or carburetted hydrogen gases the balloons will rise and keep in contact with the roof of the working; but when the hydrogen or carburetted hydrogen is present to any considerable extent they will descend till they come in contact with a purer atmosphere, and thus indicate not only the presence of noxious gases but also their depth, and the degree of danger to be apprehended. The above apparatus may be dispensed with, and the presence of those noxious gases ascertained, by simply launching a balloon from the hand without any attachment as above. For the purpose of detecting these gases in ships a vent is made in one of the hatches, eight inches in diameter, and with a groove round it for fixing a tin case furnished with two panes of glass fixed opposite each other, for the purpose of observing a balloon placed in the tin case, and inflated as above described. This vent will be closed with a plug, and a hole five feet deep and four feet square should be left below the hatches, for the purpose of allowing the gases to escape more rapidly, and this should not be filled up until a few hours before the ship sails. The height of the tin case should be about 20 inches. To destroy these gases, when their presence has been discovered, they are burnt or exploded by one or other of the following contrivances:—1. By means of an electric spark, either with or without the aid of gunpowder. If necessary to use gunpowder in addition to the electric spark, in order to ignite the gas, a portable telescope stand, that may be lengthened at pleasure, is placed so that the top is elevated as high as the noxious gas. A little gunpowder is placed on the top of the stand, which is made slightly concave for this purpose. The cord or wire with the balloon is then to be removed, and the ends of the battery now being inserted into the powder, it is fired by the spark, and the gas thus made to burn or explode; or the gas may be fired by means of a rocket, made to sweep from one end of the working to the other. For this purpose the shaft end of the rocket is firmly fixed in a small tube a few inches long, and attached by two rings at each end of it to a wire immediately above it, extending from one end of the working to the other, and capable of being fixed or removed at pleasure. The rings are for the purpose of permitting the tube to which the rocket is attached to glide along the fixed wire, being impelled by the explosive force of the rocket. The battery and men required to work it are to be placed in a chamber ventilated by a tube ascending the side of the shaft, and furnished with an iron door.

—The utilisation of peat is still an unrealised El Dorado, and affords a wide field for exercise of inventive ingenuity. Quite recently several projects have been brought forward, under the protection of the patent law. M. Chiandi (2693) proposes manufacturing an improved fuel from peat, by immersing or soaking peat in thick tar, obtained by the distillation of peat, keeping the tar liquid meanwhile by heat, and then charring the tarred peat afterwards. He has also devised an improved form of retort for conducting the coking operation. The gas and oils produced by this operation are condensed apart in suitable receivers, and the vessels in which the peat is soaked are connected with a serpentine tube for condensing the oils that may distill off. In the distillation of the peat tar for the purpose of obtaining oils, M. Chiandi employs an arrangement of apparatus, adapted for the application of heat by high pressure steam, by means of which the temperature may be easily regulated, according to the products required, and kept uniform while the separation of moisture is completely effected. The burners used for the combustion of this gas are contrived so as to restrict the supply of air to the flame, and thereby retard combustion, for the purpose of separating the carbon to such an extent as may be requisite for producing solid particles in the flame, and thus increasing the illuminating power of the gas. Machinery for the preparation of peat has also been patented by M. Mennons, for the purpose of separating the incombustible substances mixed with the peat, draining off water, and compressing it.

—The progress made in the iron manufacture, and the continual increase in the size of the work to be executed, renders larger machinery absolutely necessary, and the steam-hammer is certainly one of the most important engines employed in the workshop. The steam-hammer owes its origin to James Watt, who first patented it in 1784, since which time many modifications have been introduced, but most of them failed to prevent the liability to breakage of piston and piston-rod, and abrasion of cylinder, until Mr. John Condie, of the Govan Iron-Works, Glasgow, invented his "moving cylinder hammers," which is extremely simple and compact in its arrangement, and entirely obviates the evils complained of. The distinguishing feature in this invention consists in introducing the steam into the hammer-block, which is a massive movable steam cylinder, made of metal closely approaching in strength malleable iron. The steam and exhaust valves are fitted into the entablature, from which is suspended by a ball-and-socket joint a hollow piston-rod, which serves also as a steam and exhaust pipe alternately, and to which the piston is attached as a fixture. The steam being introduced into the cylinder, or hammer, immediately above the piston, presses against the cylinder cover, and raises the hammer between the guides to the required height. The steam being then cut off, and the exhaust valve opened, the hammer falls, not only with the velocity of gravity, but with the additional impetus produced by the compression of the air under the piston during the latter portion of the hammer's ascent. The self-acting valve gearing is so ar-

ranged that the attendant can arrest the motion of the hammer whilst it is falling, or cause it to fall at any moment whilst it is ascending. By this arrangement light or heavy strokes from one inch up to the full power of the hammer can be given, according as the work being executed may require. Mr. Condie has made hammers suitable for various purposes, from light smith work, to forgings of the heaviest description, the largest hammer having a cylinder, or head, weighing 6½ tons, with a fall of 7½ feet. A large number of testimonials, from the various firms who have adopted the machine, have been given to the inventor, and fully prove the excellency of the invention, and that the cost of repairs is extremely small.

THE MINING AND INDUSTRIAL INTERESTS OF CORNWALL. [FROM OUR CORRESPONDENT IN WEST CORNWALL.]

MAY 13.—The copper standard advanced considerably last week, the rise being such as to indicate that it would soon be followed by an advance in the price of fine copper. The general opinion is that the standard will still further improve. It has fluctuated lately in a most remarkable way, to the injury both of miners and manufacturers, inasmuch as the frequent variations in the price of copper tend to unsettle trade operations. It appears, by reports from the manufacturing districts, that the home trade has slightly improved, and that there has been a still greater movement in the foreign and colonial trade in metals and metallic manufactures. From Australia the advices are much more encouraging, and more orders were received by the last mail from the United States than for some months previously; stocks are low in the United States, and it is likely that the improved state of trade will continue. The continental trade is also better, especially from the North of Europe. On the whole, a much more cheering state of things has commenced, and we may hope to see metals rising to a better price than they have made for some time past.

The recent rise in the price of tin makes 62 per ton upon black tin of 60 per cent. produce; so that the advance will make a difference to Dolcoath adventurers of about 300/- per month, and to other tin miners in proportion to their sales. The shares of tin mines are firmer, and an advance may be expected to take place in most of them.

There is rather a better feeling in the share market, caused by the advance of the copper standard. South Frances shares have been firmer, in consequence of the mine looking better; the quoted price is about 220/- Wheal Buller shares are about 295/- South Tolgus is doing well; and Great South Tolgus is opening up a very productive mine. The lode in the 70 end is worth 60/- per ton, and the 80 end is looking very promising, and likely to be rich as it is driven further. East Tolgus has a very promising end in the 34 east, and the 12 east is also looking very encouraging. East Basset shares are firm at about 95. The shares of Wheal Margery advanced in consequence of the mine having improved; the price is about 117. At Boiling Well there is a promising lode in the 60 west. Wheal Greenville presents a better appearance, and the prospects of West Greenville are very good. At North Busy the adventurers, after long perseverance, and expending a considerable amount of money, have at last a promising mine, likely, from indications, to further improve, and repay them for their outlay.

At the United Mines, the Hot lode is looking well for an improvement in the 220 level. West Alfred Consols is promising at different points; the lode in the 95 is large, and worthy of vigorous development. At South Seton meeting a call of 1/- per share was made; the agents are still sinking the shaft on a promising lode, and when further depth is attained levels will be driven to explore. The lode is very similar to West Seton lode at a shallow level. South Garras Mine is raising a large quantity of lead ore. Wheal Margaret shares are about 55/- Wheal Kitty (Lelant), 93/- and 10/- The advance in the price of tin has taken place just in time for some of the tin mines, which were in very struggling circumstances.

Mr. Michael Williams, M.P. for West Cornwall, has so far recovered from his illness at to be enabled to visit his place of business at Scorrier.

I am given to understand that the Mining School at Truro, having failed to receive the necessary support of the mining interest, is likely soon to be brought to a close. This is a result to be regretted, for although the school has not answered the expectations formed of it by many persons, it was capable of improvement, and might have been a central institution from which district schools would probably in future have sprung up, to provide the mining districts of the county with facilities for obtaining a class of education specially adapted to mining pursuits. The school, however, fails for want of adequate support; if it is in want of funds, and in want of pupils, and thus the experiment, which once looked promising, having proved unsuccessful, it is not probable that another will be made for many years to come. In the meantime, the Cornish miners and mine agents will remain very much as they have been; they will be almost wholly indebted for what they know to observation and practice. No reasonable person can doubt that they would be all the better for a possession of scientific knowledge in conjunction with their practical ability. Some of the mine agents of the present day have attained, by self-education, a considerable amount of scientific information; but they would have found the benefit of systematic teaching, in giving them a more minute and accurate acquaintance with science. It would be well if cheap instruction were given in the mining districts in geology, chemistry, metallurgy, and mechanics; the question, however, is—how are the necessary district schools to be established and supported? The school has failed at Truro, but would a similar institution fail at Redruth, which is an active and important mining district? The experiment is worthy of trial, and would be likely to succeed if the two Members for West Cornwall could be induced to give it their support.

The establishment of the Mining School for Cornwall at Truro was evidently a mistake; it was done, professedly, to have the advantage of using the laboratory of the Royal Institution in that town. To establish a school at Redruth sufficient funds must be raised for a laboratory; the education must be made as cheap as possible to regular students; and at the same time, elementary instruction should be offered to the working miners of the neighbourhood. Much good might be done in this way, but if the attempt be not now made, it is likely to be many years, after the failure of the school at Truro, before a similar, or an improved institution, will be established in any other part of Cornwall.

The Cornwall Railway Bill, for extension of time for making the line from Truro to Falmouth, has passed the House of Commons, but not without the insertion of a clause in committee, restraining the company, after completing the line from Plymouth to Truro, from applying any portion of their surplus capital to any other purpose than the construction of the line to Falmouth.

A great deal has been said and written about the want of harbours of refuge in the stormy Bristol Channel. It is now stated that most probably 200,000/- will be supplied by the Government for that purpose, to be divided between the four ports of Padstow, St. Ives, Clovelly, and Mumbles.

The mackerel fishery is progressing successfully, and the fish are sold in the county at low prices, to the great advantage of the population.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES. [FROM OUR CORRESPONDENT IN SOUTH WALES.]

MAY 13.—The circumstances which have resulted in an universal depression of the iron and coal trades for a long period remain in almost undiminished force, and the indications of re-animation are scarcely sufficient to keep hope alive. Occasionally we hear of incidents which promise to lead to an end, now becoming every day more necessary—a general briskness and activity; but, ultimately, it is found that the welcome change only affects isolated works, and even those only partially and temporarily. We have passed through eight or nine months of almost unparalleled difficulty; the pressure of the times has been increased by disastrous strikes and disagreements; and although we have escaped from the latter evil, it has not been without considerable injury and loss. The fact which now operates most disadvantageously is the absence of that foreign demand on which the trade of this district depends in so large a degree. From America no orders of consideration are received, although a straggling and irregular enquiry is still kept up. This change alone cripples our commerce sadly; but when we add to it the diminished support afforded us by the Continent, it must be plain that great losses are being daily sustained throughout the district. It is greatly to the credit of our ironmasters that hitherto they have struggled through without any failures, and we hope that a brighter day will soon dawn upon their affairs.

It is reported that a large firm has received an order to supply 100,000 tons of Welsh coal to a steam shipping company of Hamburg, for use in their vessels. We trust this is correct. We are enabled to state a singular fact, illustrating the old paradox of "sending coals to Newcastle." The Messrs. Powell, of Abergavenny, have received orders to send a quantity of coal to Newcastle, for the purpose of supplying a steam-vessel, it is believed for an experiment. The Welsh owners would be very happy to forward any amount required to the same port.

At such a time as the present it is hardly to be expected that purchasers will be found for large and expensive works or pits. Several have lately been offered for sale, privately and by public auction, but with much the same result. Capitalists are afraid at present of entering into heavy speculations, although ultimately a good profit would, in many cases, reward their enterprise. On Saturday the Kidwelly Tin Plate Works were put up at the Mackworth Arms, Swansea, by Mr. Gawn, but the property was bought in at the reserve price. It will probably not be brought forward again until the aspect of affairs is more promising.

The inquest on the bodies of the sufferers in the late colliery explosion at Machen has commenced, Mr. Herbert Mackworth, the Government Inspector, being present. In consequence of it being anticipated that another of the injured men would die, and the intended witness not being sufficiently recovered to give evidence, the enquiry was adjourned until Friday, June 4.

A man has been killed in the Bryn Borth Pit, Rhymney. He had been engaged in his usual occupation all the morning, and was eating his dinner, when a large fragment fell from the roof, struck him on the back of his head, and killed him instantaneously. The inquest was held before the deputy-coroner of Glamorganshire, and an ordinary verdict was returned.

We have two other fatal accidents in coal mines to record this week: the first happened at Blaina, to a man who was crushed to death by a huge stone which fell on him. He was not discovered until some hours after the occurrence, but it is believed he must have been instantly killed. The second took place at Ebbw Vale, the manner of death being precisely the same.

A dispute has arisen between the Tredgar Iron Company and the public respecting the right of road along the Striethow tramway. A large meeting has been held, in which the attendance of working miners was not more than a hundred. This class has, for some time past, greatly neglected, and has unhappily been rendered for drunkenness, ignorance, and rudeness. An improvement is evidently needed, if the number who are striving after better things be as yet small, it must be remembered that moral changes are always of slow growth. It was very gratifying to Mr. Brough so well received, by the workmen on the one hand, and the proprie-

ties of this result was, that they had lost 6000/- by selling iron before originally been 1800/-, and their business a lossing one, and that this and other losses in unfavourable realisations, made up the total amount of loss. Under these circumstances, Mr. Wright, the solicitor for the assignees, asked the Commissioner to grant the certificate of the second class was granted.

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REPORT FROM NORTHUMBERLAND AND DURHAM. [FROM OUR CORRESPONDENT]

MAY 13.—The Coal Trade to London, &c., remains quiet, but the export trade for April shows some improvement. This is gratifying. The export of coal for April shows an increase of 32,572 tons, as compared with April, 1857. The trade in goods, other than coals and coke, has not yet recovered its former position; but is reported to be progressing.

The decision of the Committee of the House of Commons, respecting the project of the Border Counties and North British Railways, and the Caledonian Railway scheme, rejecting the former projects and sanctioning the latter, has raised a storm of indignation here. It really appears passing strange how they have arrived at this conclusion; at any rate it is regarded with almost universal astonishment and dissatisfaction by the whole community. The united scheme of the Border Counties and North British Railways is, without doubt, a fine one, as it completes the central line of communication between England and Scotland, and connects the sea ports on the east and west coast of the island by a continuous system of railways, and would make the produce of large additional mineral fields available to the public; it would undoubtedly have been a great boon to the whole of the manufacturing towns in the south of Scotland, as the produce of such a coal field as the Plashers is wanted most urgently in those towns. The whole scheme must be viewed as one of much importance, and calculated to benefit a large tract of country, and also the population of great seats of industry in both England and Scotland.

And what has the Caledonian scheme to set against all this? Their project appears so very meagre in comparison, that it seems almost unaccountable how they have been considered to be the opposing lines. They merely propose a branch line by way of Langholm to Hawick, which certainly connects the latter place with Carlisle by means of a line of indigo here. It really appears passing strange how they have arrived at this conclusion; at any rate it is regarded with almost universal astonishment and dissatisfaction by the whole community.

A meeting of the local committee of the Institute of Mechanical Engineers was held last week, when a deputation from the Council of the Institute attended, in order to make arrangements respecting the forthcoming meeting in August. Several plans and models of improved machinery are already prepared, and papers on mechanical subjects, &c., are preparing. We are not aware whether any eminent colliery engineers are members of this institute. It would, we think, be highly interesting and useful if plans or models of machinery for winding, pumping, and other colliery operations, were brought forward at this particular meeting, as Newcastle is the centre of such an important coal mining district. No doubt some of the colliery engineers could furnish such plans and models, and also papers descriptive of them. And this would be especially useful where improved modes of pumping, winding, &c., have been adopted.

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We have heard of an engine, on a novel principle, being adopted for winding at the Shield Row Colliery, near Gateshead; and also of an improved pumping-engine being established at the Burrowton Colliery, near Newcastle, by Mr. Horsley. A large pumping-engine was also erected some time ago, by the same gentleman, at the Hartley Colliery, near Blyth, for the purpose of draining the mine. This mine had been inundated for some time, and it was supposed by many that the fountains of water were derived from the sea. However, the engine has been completely successful, the mine having been quite drained; and although the depth of the mine is not great, still many points of the engine, and the delivery of water by it, is no doubt remarkable; yet we have met with no particular accounts of this engine in the publications of the day, which is much to be regretted. The forthcoming meeting of mechanical engineers will present an excellent opportunity for making the general public acquainted with those improvements.

blast-furnaces are about to be erected at Seaham, by the Marchioness of Londonderry, for the purpose of smelting the Cleveland ore, of which her ladyship is lessee to a large extent.

Since the publication of Mr. Coleman's report, respecting the district bank, a call has been made on the unfortunate shareholders of 33/- per share, in addition to a call of 3/- made formerly. This will operate injuriously on the trade of the district to some extent; and it is announced to-day that the bank, which was opened after the stoppage of the district bank, by a few gentleman connected with the latter, is to be relinquished. They state the reason to be that, "with so many of their partners liable as shareholders in the district bank, they cannot calculate upon insuring that amount of confidence requisite to justify the continuance of their operations."

A general meeting of the North of England Institute of Mining Engineers was held to-day; a paper was read by M. Laurent, on the Lamellielle system of ventilation, and a model exhibited of the fan he employs. It appears it is employed extensively on the Continent. It is an ingenious application of the fan, and differs from the ordinary circular fan in being eccentric. An interesting discussion also took place on the paper lately read by the President of the Institute, Mr. Nicholas Wood, on the Lune Hill Colliery explosion. He explained the system of working, ventilating, and lighting the mine, in a very lucid manner, and went largely into all the details of this very important subject. He condemned, most emphatically, the system of using naked lights where the plan of working is pursued of leading and following banks, as in that case the danger is much greater than in ordinary long work, as open lights are placed on three sides of the goaf; so that if gas exists at all in the goaf great danger is incurred of its coming in contact with those lights. He also recommended a better distribution of the currents of air, so as to prevent the necessity of using such a large number of doors, or so as to prevent the use of doors altogether if possible. The whole subject of this paper and its discussion, we need scarcely remark, is well worthy the most serious attention of all managers of coal mines, as the avoidance of such awful events in future depends, in a great measure, on the right understanding of the proximate causes of those which have unfortunately occurred.

THE IRON AND METAL TRADES OF STAFFORDSHIRE.

[FROM OUR CORRESPONDENT AT WOLVERHAMPTON.]

MAY 14.—The giving out of very large orders for India will help to impress a little animation to the Iron Trade, which has so long continued depressed. The South Staffordshire Water-Works Company, which is executing extensive works for the conveyance of water from some springs and streams near Lichfield, is advertising for some 1500 tons of cast-iron main and distribution pipes; and this will be an acceptable addition to the orders at the foundries. There can be no doubt that the present is a very favourable time for purchasing iron. Few rails are now being made here, and the demand generally continues slack. These East Indian orders being looked upon as quite a goad in the present scanty supply of orders. The Americans are meeting their liabilities better than was expected, but the indebtedness to this country still continues very large in amount.

The Hardware Trades remain quiet, some accounts representing them as being flatter. The demand from Scotland has long been very small; the great manufacturing districts of Lancashire and Yorkshire have been only a degree better, but it is stated that there is now a falling off from some of the agricultural districts, especially the eastern counties. The wholesale dealers of London appear to be more hopeful than they were a few weeks ago. The orders for hardware goods from America are still very few, but it is remarked that the few that are given out are wanted to be completed speedily, which may be regarded as an indication that the townships of stocks in that country is beginning to be very distinctly felt, and this must soon lead to orders being sent. Some of the manufacturers of tin and Japan wares speak of a slight improvement in the home demand.

The strike of the stock-lock makers has ended by the men accepting lower rates. The London Society has intimated to them that their funds are too small to allow them to support the locksmiths in the event of their striking, and this has led the latter to accept the reduced rates, which are equal to a reduction of about 20 per cent. in their wages.

A strike has continued for the last nine weeks in the Potteries, the miners in the employ of the Messrs. Williamson, of Goldendenhill, Tunstall, refusing to submit to a reduction of their wages from 3s. 6d. to 3s. 3d. per day, coupled with the requirement that they should go to work one hour sooner than formerly on Monday morning. The Messrs. Williamson justified the proposed reduction on the ground that there being now scarcely any demand for ironstone, they could not continue to get it merely to accumulate in stock unless they could do so at some reduction of the cost, which would compensate them for their capital thus lying idle. No corresponding reduction or alteration has been attempted to be enforced by the other proprietors of mines, and the workmen are determined to resist, appealing to the other colliers in the district and to the public for support. This has been granted them to a remarkable extent, nearly 100/- a week having been received during the whole period. Last week the Messrs. Williamson offered to take the men on again at two of the pits, at the former wages (3s. 6d. per day), but as the proposal did not include the opening of the two pits, the men resolved to decline beginning to work. The workmen are of opinion that in making this proposal the Messrs. Williamson are only influenced by the necessity of executing contracts, and the workmen believe that by standing out for a short time longer the whole of the works will be resumed at the old rate of wages. This certainly involves a new phase in the strike. It is evidently open for any man to resolve not to sell his labour below a certain price, or for a number of men mutually to agree upon the rate of wages they will insist upon; but it is questionable whether workmen are not going too far when they insist not only that they shall receive a certain sum, but also fixing upon the number of men whom their employers shall keep at work.

A large number of the ironmasters of South Staffordshire have been called upon during the week for statistics for Mr. Hunt's annual report of the metallic productions of this country. The facts which he will have to report will show how serious have been the results of the late panic—results which necessarily followed from the unsound, reckless, and, it may safely be said, the dishonest mode in which no small part of the business of the district has been carried on.

The first of the bankrupt firms engaged in the iron trade in South Staffordshire, brought down during the late crisis, that of Messrs. Burford and Thompson, passed safely through the easy ordeal of the Birmingham Bankruptcy Court, on Friday last, and are now legally free from all the obligations they had incurred. The solicitor for the assignees called the attention of the Commissioner to the fact that the firm only began business towards the end of 1854, with a capital under 2500/-, reduced to 1800/- by the retirement of one partner, and that they had now liabilities amounting to 12,000/-, whilst their assets were only 1200/-, making their total losses in three years upwards of 12,000/-.

Their explanation of this result was, that they had lost 6000/- by selling iron before originally been 1800/-, and their business a lossing one, and that this and other losses in unfavourable realisations, made up the total amount of loss. Under these circumstances, Mr. Wright, the solicitor for the assignees, asked the Commissioner to grant the certificate of the second class was granted.

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REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE. [FROM OUR CORRESPONDENT IN CHESTERFIELD.]

MAY 13.—The present position and prospects of the Iron Trade unsatisfactory, and a period of greater dullness, considering the change of money, has not been experienced for some time past. The demand for all descriptions of iron is limited both for home and foreign consumption.

The Coal Trade is dull, and there is a large quantity of coal on pit banks.

On Monday last there was a large meeting of colliers held at Winton, near Chesterfield, to hear the addresses of Messrs. Chapwin and Taylor, of Barnsley. Mr. Chapwin first addressed the meeting, and referred to the strong reduction of 15 per cent., and stated how the colliers struck work and refused to accede to it. They came to enforce the claims of the Colliers' Friendly Society. There were now 10,000 men in the Barnsley district paying their sixpence per week to the union, which would realise 30,000/- per year. Mr. Taylor said the society advanced keeping up the price of coal and the wages of the miner; it was calculated that the miners should be reduced in the scale of wages.

An open air demonstration of colliers was held at Wakefield, this morning. Price advised the men to amalgamate, and throw themselves into one general union. They ought to be prepared at any moment to resist a reduction like the present, believed that the public would sooner pay 10 per cent. more for their coal than on colliers' wages reduced 15 per cent. He then read a memorial about to be presented to both Houses of Parliament, praying that 1d. per ton may be levied on all coal to be given to the bank for the purpose of forming a Colliers' Home, similar to the Seaman's Fund, and that Government have control of the expenditure of the money. Several speakers addressed the meeting, which was of a most orderly character.

At Rochdale Petty Sessions, on Wednesday, Mr. C. Haigh, of Clough Trough Colliery, was fined 5/- and costs, for neglecting to supply rules, and for working an engine with steam and water gauges and safety valve.

THE MEXICAN AND SOUTH AMERICAN COMPANY.

The Master of the Rolls was called upon Saturday (re Barclay) for his opinion upon the following facts:—It appeared that an order was made for winding-up the affairs of this company a short time since. The company was originally formed for the purpose of carrying on mineral operations and other matters connected therewith in South America. It was called a "Scrip Company," and the dividends were payable to the holders of the scrip, without any deed being executed or any other formality.

John Hazlehurst Barclay had, it appeared, purchased 60 of these scrip-shares on the Stock Exchange, and had signed the claim required by the rules in order to entitle him to dividends,

That is the only question; but it does not affect the principle of the case in any degree. I am of opinion that in this case Messrs. Finlay, Hodgson, and others must be put on the list of contributors, in respect of 60 shares which, I understand, they hold beneficially, and that they must not be put on the list of contributors in respect of all the remaining shares, of which it is established that they have been held for other persons.

SAYERS: Your Honour will give them the same liberty as you gave Mr. Barclay?

MASTER OF THE ROLLS: Yes.

MASTER OF THE ROLLS: It is understood that I do not re-argue the case; but I do not consent to it.

MR. E. PALMER: I understand that in both cases counsel would be certified?

MASTER OF THE ROLLS: Yes; they must have the same liberty that Messrs. Barclay and others had.

MASTER OF THE ROLLS: They are put on for 60 shares, and no more. I do not know what your thoughts about the cost.

MASTER OF THE ROLLS: I think it is a very fair and proper case to be brought before the Court. I do not wish to give costs on either side. I do not know what the usual dealing with the costs of such cases is.

MASTER OF THE ROLLS: It is only in this case because Mr. Barclay's name begins with the letter B.

MASTER OF THE ROLLS: There is this to be said, that I do not see how I could give Barclay my costs; but, with respect to Finlay, Hodgson, and Company, I suppose we have argued this case except for the other point?

SAYERS: Not after Barclay's case.

SAYERS: They were both adjoined into Court together.

MASTER OF THE ROLLS: Why were they adjourned? Mr. Barclay raised the general question.

SAYERS: Mr. Hodgson was selected merely as the representative of the agency question.

MASTER OF THE ROLLS: And of course they would have been satisfied with Mr. Barclay raising the question, and moving to discharge the original order?

SAYERS: It would have been quite absurd for Mr. Hodgson, supposing the other side had given up the point as to the agency, to have come here and argued the same in decided in Barclay's case.

MASTER OF THE ROLLS: You have not argued it.

SAYERS: Therefore, as far as Messrs. Hodgson are concerned, I should submit that the costs of all parties should come out of the estate.

MR. E. PALMER: It would be an unprecedented order to give them any part of the assets in the shape of costs.

SAYERS: My strict right would be to have the costs of Mr. Hodgson's case against him decided in his favour.

As your Honour said it was a fair subject to be discussed before it is decided in his favour.

MASTER OF THE ROLLS: The official manager did right to bring it here.

MR. E. PALMER: This case was partly the same as Barclay's case, partly not. They were liable for the debts of the company, and no precedent can be produced for giving them a bonus on the list of their costs out of the estate.

MASTER OF THE ROLLS: This case will determine the whole without Mr. Barclay—that is, it would have determined both.—MR. SELWYN: Mr. Barclay has raised the question of new shares. Your Honour recollects I began that.

MASTER OF THE ROLLS: And I disposed of that. I held that they were bound to lay in their mouth to raise the objection.

SAYERS: There were the two questions—first, as to the 60 lps., instead of 100; then there was the second question as to the general constitution of the company.

MR. E. PALMER: I submit it must follow the general rule. The official manager always has his costs out of the estate.—THE MASTER OF THE ROLLS: Yes; the official manager always has his costs out of the estate.

MR. E. PALMER: I never heard of a contributory having them.

MASTER OF THE ROLLS: If it had been morely this question I should have given the costs, Mr. Selwyn. In point of fact, the two questions are raised. I do not give you the costs, as you were put on for the 60 shares.—MR. FOLLETT: Your official manager his costs and the creditors' representative his.

MASTER OF THE ROLLS: I suppose he must have his; it is with great regret I do not say you cannot conceive anything that is more painful to me than the necessity of seeing the creditors' representative here. My experience is that two counsel do as well as four. Two good counsel selected in Court do the thing as well as I and I observe the mere effect of this Act of Parliament will be to get the Court to far counsel instead of two, and at great increase of expense.

MR. E. PALMER: Your Honour is not under any obligation to give him the costs.

MR. SELWYN: In the end, the creditors' representative appearing here will be of saving great expense. Thousands were paid in common law proceedings out of the winding-up.

I know of a case where the extra costs of the successful creditors were compensated at 2000%.

MASTER OF THE ROLLS: At common law?

MR. SELWYN: In consequence of the proceedings he was obliged to take to enforce his claim at common law, while the winding-up was going on, there being no other way.

MR. FOLLETT: What my friend means is, that bringing the creditors in under the winding-up will have expense in the long run.

MASTER OF THE ROLLS: It may be so: I think I must give you the costs.

MR. E. PALMER: I have nothing to say, if your Honour thinks it right; but you must excuse me for reminding you that you are under no obligation to do so. The Act of Parliament is differently worded in this respect.

MASTER OF THE ROLLS: That is true. I am sure of this: I must either allow

them to add their costs to the debt, or give them their costs.

MASTER OF THE ROLLS: I do not make any objection to it.

MASTER OF THE ROLLS: I cannot make them pay for that.

MR. E. PALMER: When this subject was argued before the Lords Justices it was rather

angrily insisted on the part of those who supported your Honour's order that the Court

had no right to interfere with the winding-up.

MASTER OF THE ROLLS: Yes; if it was too plain a case, or an improper case to be

written to the Lords Justices, the official manager would have done a good service to the creditors.

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MASTER OF THE ROLLS: That is true. I am sure of this: I must either allow

them to add their costs to the debt, or give them their costs.

MASTER OF THE ROLLS: I do not make any objection to it.

MASTER OF THE ROLLS: I cannot make them pay for that.

MR. E. PALMER: When this subject was argued before the Lords Justices it was rather

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TO BE SOLD, by PRIVATE TREATY, the UNEXPIRED TERM of LEASE of certain extensive and valuable LEAD MINES, situated between the town of Newtownards and Bangor, in the county of Down, Ireland, and called the NEW-TOWARDS MINES; together with the MACHINERY, TOOLS, IMPLEMENTS, STORES, and MATERIALS, thereto belonging; including FIVE STEAM-ENGINES, EXCELLENT CRUSHING MILLS, and every requisite convenience for carrying on an extensive business. These mines have already yielded in profits £85,000 and upwards, and are still working at a profit. It is now requisite to open out new ground, of which there is a large extent unexplored: from the nature of the Deed of Association, the directors are unable to make calls upon the shareholders, and it has been determined to dispose of the mine.

The LEASE, which comprises the whole townland of White Spots, is held for the life of a healthy young man, 19 years of age, together with an unexpired term of six years from the 1st Nov. last. The works are conveniently situated within a few miles from the port of Bangor, where the mining company have a store.

A few spirited adventurers, willing to embark a moderate capital, will find this a most favourable opportunity, offering fair and reasonable prospects of success.

Terms and particulars may be known upon application to W. BECKWITH, Esq., Douglass, Isle of Man; or Mr. H. B. NOBLE, Secretary of the Newtownards Mining Company, Douglas—April 7, 1858.

IRONWORKS FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, the BEDLINGTON IRONWORKS, situated at Bedlington, on the River Blyth, and adjoining the Blyth and Tyne Railway, with a branch. The works consist of TWO powerful ENGINES, of 110 and 100-horse power, drawing, three finishing, two padding, and one plate mills, with two squeezers and shears attached. There are 30 puddling and 11 heating furnaces; also, one engine for large plate shears, with small pumping engine and donkey, and a good 25-horse power engine for working a good use forge, with two heating furnaces. The works are capable of making from 300 to 500 tons of finished iron per week.

The advantages connected with these works are their being situated in a large coal district; also, their being connected with the Blyth and Tyne Railway, where goods can be shipped either at the Haystake Docks, on the Tyne, and sent to any part of the kingdom by rail, or at Blyth, at a very small cost, where also the raw material can be delivered ex ship. The works could be ready for immediate operation at a very small cost.

There is attached to the works a mansion-house, manager's house, offices, and several cottages; also, a first-rate dam, and a large reservoir of water, capable of driving a water-wheel of 100-horse power.

For further particulars, apply to Mr. GIBB, at the works; to Mr. JOSEPH THORNTON, Newcastle-on-Tyne; or to Messrs. LACE, MARSHALL, and GILL, solicitors, Liverpool.

FOREST OF DEAN, GLOUCESTERSHIRE.

THE ARTHUR AND EDWARD COLLIERY, at LYDBROOK, with all the valuable PLANT and MACHINERY, and STOCK of FIRE-CLAY of immense extent.—TO BE DISPOSED OF, an extensive and important COLLIERY, lately working the celebrated High Delf Vein of Coal, extending to 180 acres, and upon which a very considerable outlay has been made in the erection of buildings, with the most complete steam-engines, plant, and machinery. The underground workings are very extensive, erected in stone, and the arrangements are most complete for working 200 tons a day, and carrying on the colliery most successfully, the small coal being much in request for patent fuel, and a most valuable stock of fire-clay on the bank.—To view, apply to Mr. SMITH, at the works; and for further particulars and terms, to Mr. BIRAM WILLIAMS, 61, Moorgate-street; or to Mr. RONIN, Piazza, Covent-garden, London.

SPECIAL NOTICE.—ANTHRACITE COAL, MINERAL, AND OTHER PROPERTY.

TO CAPITALISTS, IRONMASTERS, AND OTHERS.—A valuable FREEHOLD MINERAL ESTATE, of ample magnitude, centrally situated in South Wales for railway transit and shipment, containing ANTHRACITE or STEAM COAL, BLACKBAND IRON ORE, IRONSTONE, FIRE, and OTHER CLAYS, PAVING, BUILDING, GRINDING, FLAGS, SILLS, and OTHER STONE, with adequate water-power and timber. The PROPRIETOR is prepared to DISPOSE OF ONE UNDIVIDED SIXTH PART OF SHARE, upon most advantageous terms to a purchaser, but with the avowed view of his joining him in working the same, which might be done at a comparatively trifling expense. None but principals will be treated with, this arrangement being strictly genuine.—Apply, pre-paid, with real name and address, to C. V., Post-office, Gloucester. N. B. The minerals have been proved by levels and otherwise.

CAMBRIAN FOUNDRY, ABERYSTWITH, CARDIGANSHIRE.—ON SALE, an excellent NEW 26 in. CRUSHER, complete; also, a 30 in. CRUSHER, nearly complete; and several LIFTS OF PUMPS.

N. B. All kinds of CASTINGS, SMITHS' and BRASS WORK MADE, for mining and other purposes, on the shortest notice, and at reasonable charges. STEEL, BAR-IRON, CHAIN, and OTHER MATERIALS.

SCREW, BOLT, and BOILERS MADE.

Plans and estimates forwarded, on application, for water-wheels, steam-engines, &c.—Address, GED. GREEKS, Cambrian Foundry, Aberystwith.

TO MINERS AND OTHERS.—TO BE SOLD, a great bargain, a NEW WATER-WHEEL, 50 ft. by 6 ft. 6 in. breast, with cast-iron rings, axle stools, crank, and oak plumbum blocks.

SIX STAMPS, and cast-iron axle, with lifters, tongues, cams and frame, complete; also, tooth and pinion wheels, to connect it with other machinery, if required.

BERDAN'S GOLD EXTRACTING MACHINES, suitable for pulverising mineral or other substances, or for general purposes of grinding; new and complete, with driving gear, four large iron basins or pans (45 cwt. each), four large iron balls (45 cwt. each), and four smaller balls (16 cwt. each). The whole now on the Bampfylde Mine, near North Molton, Devon, eleven miles from Barnstaple.

Applications to be addressed to CHAS. HANB, 52, Castle-street, Liverpool.

BLACKBAND IRONSTONE FIELD.—TO SUBLLET, BY PRIVATE BARGAIN, in the parish of New Cumnock, Ayrshire, the TENANT'S RIGHT and INTEREST in a LEASE, of which there are 23 years to run, of the BLACKBAND IRONSTONE, discovered in part of the estate of Mansfield, the property of M. THOMSON CARMICHAEL, Esq. The Glasgow and South-Western Railway intersects the property. The lands contain about 1100 acres; and it is estimated the blackband extends over the greater portion of the property.—Full particulars may be learned from M. JAMES GRAY, New Cumnock; NEL ROBSON, Esq., civil engineer, Glasgow; or JOHN HENDRIE, Esq., Union Bank, Galston.—April 21, 1858.

MINERALS ON LOCH FYNE TO LET.—See Advertisement in this Journal, page 278, 24th April, 1858. One deposit of iron ore let, but one equally good still to let.

MINES.—THE PROPRIETOR of a very extensive PROPERTY in NORTH WALES is prepared immediately to GRANT a SETT or SETTS, with the usual reservations, to a COMPANY of RESPONSIBLE ADVENTURERS. The property is situate in a district abounding in minerals, has been surveyed by an experienced mining engineer, and most favourably reported on, as containing undoubted indications of the existence of lead and COPPER ORE. Portions of the ground have been opened, which can be personally inspected; and the report with the plan annexed, seen, or a copy of the report can be furnished, on application to H. T. RICHARDSON, Esq., Post-office, Bala, North Wales; or to Mr. JAS. RULE, mine agent, Fore-street, Camborne, Cornwall. References required.

MINERALOGICAL SURVEY OF ABER HIRNANT, THE ESTATE OF H. T. RICHARDSON, Esq., COUNTY OF MERIONETH, NORTH WALES.

Cork, June 30, 1846.—Aber Hirnant and the surrounding districts are all of the Cambrian formation, over which, and in connection, are beds or compound strata of the carboniferous or silurian slate, in which are found partial beds of grey shell limestone. . . . Sufficient slate, however, might easily be raised for home consumption.—A matter of valuable consideration in erecting mining offices or miners' dwelling-houses—should the veins, or mineral indications, now discovered prove as productive as they are confidently expected to do when sufficiently explored. These mineral veins, and their character, bearing north, are described on the other side of the map. South-east of Aber Hirnant House, at the junction of Nant-y-Sarn and Nant-y-Hir, Llynnwlech, there are two cross veins of quartz, which bears traces of ore bearing. The slate rock around these veins is favourable to lead, and the striking of the underlie of the veins is what miners call floatan—decomposed earthy, and mineral matter, always indicative of ore. Favourable indications of the presence of lead show also at and near the junction of Nant-y-groes Fagan, or Nant-y-Stradloes. Quartz veins, with gypsum, or decomposed sulphur, bear through "wacks" indurated slate, which bears across to Cwm Gwyn and Blaen Cwm Ethnant; these bearings are all ore ground. South of Moel-Dinas, near the source of the Hirnant, having Dolgwyn on the north-west, there are several indications of the presence of metallic veins.—1st. As you proceed along the road to Llynyddwyn, on the rise of the Blaen Cwm Ethnant, quartz veins shoot through the slate and wacke in mountain cuts, and across the road.—2d. The veins form junctions in the deep cuts of the valley west of the road, and regular ore lodes are here developed, which have most promising aspects. In the scars or mountain stream cuts, or ravines, descending from Moel-y-Gefr, and proceeding north-east, these promising features exhibit themselves very forcibly; the water is saturated with sulphur, and rich gypsum accompanies the quartz almost all through. The indications here are, as on the surface, rather indications of copper ore, but this district, lying in a lead region, is rather predisposed for lead, and therefore, though copper ore may be found near the surface, its passage to lead districts may rather occur at the depth. In the map, A marks the position of the veins I, above alluded to, B and C to 2, and D and E to No. 3; the F's are quartz or gypsum indications, as leaders to the mine veins. Districts 2 and 3 are by much of the most promising description as ore-bearing ground, and will, from every indication, be found, on proper trial, to make good mines. No. 1, marked A, is not of such striking importance, but indications of minor regard in ore districts are always deserving of proper notice for future trials, after the more striking features are themselves worthy. Pen Cwm Butan presents also some favourable strikings, which, however, require no trials; the veins and indications on the top and higher positions of this hill, as well as Moel-y-Gefr, are leaders to the veins and lodes that show in the neighbouring ravines, as above noticed. In conclusion, having carefully explored this property, I feel warranted in pronouncing it a mining district of lead formation, which only requires proper developing to prove productive.

ST. PIERRE FOLEY, M.E.

* This report was originally written on either side of a plan of this estate, showing the mineral veins, &c.

THE GENERAL AUCTION COMPANY (LIMITED).—This company calls the attention of Engineers, Architects, Contractors, Builders, Manufacturers, and others, to the FACILITIES THEY POSSESS for the PUBLIC or PRIVATE SALE of ENGINEERING PLANT of every description, BUILDING MATERIALS, LAND, &c.—Further particulars to be obtained of the MANAGER, at the office, 23, New Bridge-street, Blackfriars, E.C.

THE GENERAL AUCTION COMPANY (LIMITED).—The Directors are prepared to receive APPLICATIONS for ADVANCES on ALL DESCRIPTIONS OF PROPERTY INTENDED FOR SALE.

Offices, 23, New Bridge-street, Blackfriars, E.C.

MORTGAGE.—The GENERAL AUCTION COMPANY (LIMITED) are instructed to INVEST various SUMS OF MONEY by way of MORTGAGE, from £500 upwards.

Offices, 23, New Bridge-street, Blackfriars, E.C.

GLENFIELD PATENT STARCH, USED IN THE ROYAL LAUNDRY, AND PRONOUNCED BY HER MAJESTY'S LAUNDRY TO BE THE FINEST STARCH SHE EVER USED.

Sold by all chandlers, grocers, &c.

In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

PURSUANT to TWO several ORDERS, or DECREES, made in the Causes of HARVEY AND OTHERS v. REED.

MILLETT AND ANOTHER v. SAME.

The CREDITORS in respect of WHEAL GUSKUS MINE, in the parish of St. Hilary, within the said Stannaries, are, on or before the 27th day of May inst., to COME IN and PROVE THEIR DEBTS before the Registrar of the said Court, at his office in Truro, or in default thereof they will be peremptorily excluded the benefit of the said two several Decrees.—Dated Registrar's Office, Truro, the 13th day of May, 1858.

IMPORTANT SALE OF VALUABLE MINING MACHINERY AND MATERIALS AT TRESAVEAN MINE, IN THE PARISH OF GWENNAP.

M. R. MICHELL has received instructions to OFFER FOR SALE, on Tuesday, the 18th inst., by Eleven o'clock precisely, at TRESAVEAN MINE, in the parish of Gwenap, the WHOLE of the valuable MACHINERY and MATERIALS therein, consisting of—

One 85 in. cylinder STEAM-ENGINE, with four boilers, about 12 tons each.

One 50 in. cylinder steam-engine, with one boiler, about 10 tons.

One 24 in. cylinder whin engine, with boiler, about 9 tons.

One 20 in. cylinder whin engine, with boiler.

One 18 in. cylinder whin engine, with boiler.

Two 30 ft. diameter water-wheels, with crushers attached.

One 30 ft. diameter water-wheel, with sawing machine attached.

One 40 ft. and several smaller stamping mills, with frames, &c.

Several capstan-ropes, and shears, with their connections.

Several capstan-ropes, of various sizes.

100 fms. 12 in. oak shaft rods, with plates and bolts.

200 fms. 12 and 13 in. rods, with plates and bolts.

Three cast-iron balance-bots.

128 ft. 12, 13, and 14 in. pumps.

H and doorpieces, plunger-poles and workings to match the pumps.

Large quantity of ladders, shaft casings, and other timber.

Fiat ropes and chain, of various sizes.

Together with every variety of other useful materials, particulars of which will appear in future advertisements.

The whole of the machinery and materials will be found in excellent condition, and well worthy the attention of those requiring the same. The auctioneer, therefore, solicits punctual attendance.—Dated Little-side, May 4, 1858.

MINING MATERIALS, 30 in. cylinder PUMPING ENGINE, and STAMPS ATTACHED, BOILER, &c., FOR SALE.

M. S. BURGESS AND G. SEALY WILL SELL, BY PUBLIC AUCTION, on Monday, the 24th day of May inst., at Eleven o'clock in the forenoon, at BALNOON CONSOLS MINE, in the parish of Uny Leant, the WHOLE of the excellent and valuable MINING MATERIALS—viz., a 30 in. cylinder STEAM PUMPING ENGINE, 9 ft. stroke, in the cylinder, and 8 ft. stroke in the shaft, with stamp attached, consisting of auxiliary beam, iron axle to lift 24 heads, fly-wheel, sweep rod, cranks, &c., 9 tons boiler, balance-rod, capstan-rope.

About 70 fm. 6 in. pump.

About 15 fm. 9 in. pump.

18 in. plunger-pole, 10 ft. long.

17 in. plunger-pole, 10 ft. long.

15 in. plunger-pole, 10 ft. long.

(With pole-cases to match.)

2 in. working-barrels, 10 ft. long.

1 in. working-barrel, 10 ft. long.

1 in. windpump, 9 ft. long.

3 in. windpump, 7 ft. long.

3 in. doorpieces.

18 in. doorpieces.

Stuffing-box and glands.

6 ft. H-pipe, 4 ft. long.

Stamps, hammers, tools, shafts, iron, steel, anvils and new iron, 500

and screw stocks and tools, shaft rollers, smiths' tools, sundry old and new iron, 500

bricks, carpenter's bench, a quantity of old and new timber, miners' chest, &c. Also, the account-house furniture, consisting of tables, forms, chairs, dinner sets, glasses, jugs, &c.

Refuge-hamts will be provided on the day of sale.

All persons having claims on Balnoon Consols Mine are requested to send particulars of the same forthwith to Messrs. ROSSOR and DAVIES, solicitors, Penzance.

COPPERS AND PYROLIGNEOUS WORKS FOR SALE BY AUCTION, IN CONSEQUENCE OF A DISSOLUTION OF PARTNERSHIP.

M. R. G. A. MIDDLEMEES, Auctioneer, WILL SELL, BY AUCTION, on Friday, the 21st day of May, at Two for Three o'clock in the afternoon, at Mr. BEWICK'S Large Room, Crown and Sceptre Inn, Bishopwearmouth, Sunderland, the WHOLE of the COPPERS and PYROLIGNEOUS PLANT and WORKS at DEPTFORD, in the borough of Sunderland, occupying a space of about 6½ acres of copyhold ground, with 87 yards of quay frontage.

The PLANT includes a copper-bell, three standing engines, iron shafting, wheels and pinions, couplings, carriages, &c., iron and wooden pumps, metal staves and feed pipes, coolers and boilers, multi-level iron coolers, twelve metal coolers and resting plates, water-well tanks, furnaces, wooden tubs, casks, acidic acid stills, and condenser, with the whole of the connecting metal and other pipes, cranes and elevators, tramroads in yard and on the quay, smiths' shop and plant, stock in cooper's and joiner's shop, wooden coal hopper, gas pipes, bogies, boilers, old iron, ironware, offices, and other buildings and erections, office furniture. Also, the WHOLE of the WORKING HAND TOOLS and IMPLEMENTS, comprising barrows, shovels, rakes, and saws, crowbars, a quantity of old iron, and a 3-chaldron boat; one useful cart horse.

The property will be sold subject to an existing right of road over certain portions thereof, to which the owners and tenants of adjoining properties are entitled.

The premises may be viewed by ticket on the Wednesday and Thursday preceding the day of sale, between Ten A.M. and Four P.M.

Such tickets and further particulars may be obtained on application to the auctioneer, at his office, in Fawcett-street; or at the offices of YOUNG, HARRISON, and YOUNG, solicitors, Sunderland.

SOUTH LANCASHIRE—COAL AND OTHER MINERALS, UNDER THE WHOLE OF THE MIDDLETON AND THORNHAM ESTATES.

Extending to nearly 3000 statute acres, part of which are now under leases.

M. S. CHURTON have the honour to announce that they have been instructed to SUBMIT TO SALE, BY PUBLIC AUCTION, in the Large Room, Royal Exchange, Manchester, on Friday, the 19th day of June, 1858, at One o'clock in the afternoon, the WHOLE of the COAL and OTHER MINERALS, COAL ROYALITIES, &c., arising from portions of the MIDDLETON and THORNHAM ESTATES, formerly belonging to the Earl of Salford, situated about two or three miles from the important manufacturing town of Oldham, and Rochdale, and five from Manchester.

Lot 122, in the sale of the said estates, comprehends—"The vendor's interest of and in the lease dated 1st July, 1847, granted to Messrs. Wild, Andrew, and Co., for 30 years, to the date of June, 1878, together with all other rights and privileges contained in the said lease."—And Lot 132, in the sale of the said estates, includes—"The vendor's interest in a lease of the coal called 'the Boyley Seams,' and 'Sally and Neddy Mines,' granted to Messrs. Roscow and Co., for 50 years, from the 1st of March, 1854, at the annual rental of £300, with all other rights and privileges therein."

Other coals and minerals are

MAY 15, 1858.]

THE MINING JOURNAL.

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THE PATENT REGULATING AIR-DOORS.
European and American Steam-Ship *Indians*, Gravesend, March 3, 1858.
Having to leave Southampton at short notice, also with strange hands in the
ship, I was not able to devote much time to your PATENT REGULATING AIR-
DOORS, and, as yet as I was obliged to steam round with three instead of four boilers, I am
not yet in a position to KEEP STEAM, with your invention, MUCH BETTER THAN I
COULD BEFORE. The smoke was cut off in a few seconds after every charge of fuel.
Yours, respectfully,
C. RICHARDSON, Chief Engineer.

Mr. J. Lee Stevens,
whose Boiler Certificates, proving increase of steam, ventilation of stoking rooms, cooling
of funnels, and suppression of smoke, may be seen at 1, Fish-street-hill, City, Lon-
don, C. from the Brigadier, Sir Robert Peel, Lady Jocelyn, Princess Charlotte, Per-
sonal, &c.; W. B. Lambert, Esq., European and American Steam-Ship Company;
John Summers, Esq., Northam Ironworks, Southampton; Jas. Mitchell, Esq., Marine
Works, Deptford; Laing and Stevens, London and Newcastle, &c. And relative
and Furnaces, from Sir Anthony Rothschild, Messrs. Keens and Welsh, and other
establishments.

**VERLAND ROUTE.—WEEKLY COMMUNICATION BY
STEAM TO INDIA, &c., VIA EGYPT.**
The PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY BOOK
SENGERS AND RECEIVE GOODS AND PARCELS for the MEDITERRANEAN,
ADEN, CEYLON, MADRAS, CALCUTTA, the STRAITS, CHINA, and
VILLA, by their steamers leaving Southampton on the 4th and 20th of every month;
for the MEDITERRANEAN, EGYPT, ADEN, and BOMBAY, by their packets
leaving Southampton about the 11th and 27th of the month.
For further particulars, apply at the company's offices, No. 122, Leadenhall-street; and
at their place, Southampton.

STEAM UNDER SIXTY DAYS ECLIPSSED.
The MARCO POLO of this line sailed with the steam-ship ROYAL CHARTER from
Melbourne, and arrived in Liverpool eight days before her.
PASSAGE MONEY £14 AND UPWARDS.

**BLACK BALL LINE BRITISH AND AUSTRALIAN
EX-ROYAL MAIL PACKETS.**
Appointed to Sail from LIVERPOOL on the 5th of each Month,
FOR MELBOURNE,

Forwarding Passengers by Steamer to various Ports in
AUSTRALIA AND TASMANIA.

Register. Burthen. Captain. Date.
SALDANHA 1561 3000 WATTS 5th June.
GREAT TASMANIA 2140 4500 BREWER 5th July.
CHAMPION OF THE SEAS 2480 4500 M'KIRTY To follow.
OCEAN CHIEF 1092 2500 BROWN To follow.
LIGHTNING 2690 4500 BYRNE To follow.
MARCO POLO 1625 3500 CLARKS To follow.

The above line is composed of the LARGEST, the FINEST, and FASTEST MERCHANT SHIPS in the WORLD, and have been built by the most celebrated builders of the day, including M'KAY, of Boston. They are commanded by men who have already shamed themselves famous, and their equipments and accommodations are unequalled by any line of ships afloat. The Black Ball Line has had the distinguished honour of a visit from Her Majesty the Queen, who was most graciously pleased to say that she had no idea there were such excellent ships in her merchant navy.

For freight and passage, apply to the owners, JAMES BAINES and Co., Liverpool; or to M. MACKAY and Co., 2, Moorgate-street, London, E.C.

PASSAGE MONEY £14 AND UPWARDS.

**WHITE STAR LINE OF BRITISH AND AUSTRALIAN
EX-ROYAL MAIL PACKETS.**

SAILING BETWEEN
LIVERPOOL AND MELBOURNE, on the 20th and 27th of every month, and
forwarding Passengers by Steamers at through rates to
ALL PARTS OF AUSTRALIA.

To the consignment of H. T. Wilson and Co., Melbourne.

Ship. Captain. Register. Burthen. To sail.
BEJAPORE 1676 4750 May 20.
J. LEAVITT 1203 4000 May 27.
INVINCIBLE 1767 5000 June 20.
RED JACKET M. H. O'HALLORAN. 2460 5500 June 27.
WHITE STAR T. C. C. KER 2369 5000 July 27.
GOLDEN ERA H. A. BROWN 1556 4200 —
MERMAID E. DEVEY 1320 4000 —
SHALIMAR J. E. BROWN 1432 4000 —

The noble packet-ship BEJAPORE was built by Messrs. W. and R. Wright, the builders of the celebrated clippers *White Star* and *Morning Light*, and has made some of the most passages on record, including her unparalleled passage of 74 days from England to Australia. She has carried altogether over 4000 emigrants in good health and without accident. The *Shalimar* has made some very remarkable passages, and made the great run of 90 days from London to Calcutta. Her cabins and second cabin accommodations on deck are unequalled. Passengers embark on the 19th and 26th of May.

For freight or passage, apply to H. T. Wilson and Chambers, 21, Water-street, Liverpool; or to GRINDLAY and Co., agents, 63, Cornhill, London.

**WHITE STAR LINE OF BRITISH AND AUSTRALIAN
EX-ROYAL MAIL PACKETS.**

SAILING BETWEEN
LIVERPOOL AND MELBOURNE, on the 20th and 27th of every month,
PASSAGE MONEY £14 AND UPWARDS.

Ship. Captain. Register. Burthen. To sail.
INVINCIBLE JOHNSON 1767 5000 June 20.
RED JACKET M. H. O'HALLORAN. 2460 5500 June 27.

These magnificent model clipper ships, the finest, handsomest, and fastest in the world, will be dispatched punctually at noon of the above dates. They were both built by the most celebrated builders of the day, and have never been equalled in speed by anything that. Their passages have been the most uniform and rapid that were ever made, whilst a perfection of model, magnificence of saloons, general equipment, and accommodation for passengers on deck and below, they stand unequalled. The *Invincible* has never yet seen 76 days at sea between Melbourne and England, and her last voyage from Liverpool to Melbourne and back was 73 days out and 72 days home, beating by many days every ship and steamer that sailed with her. The *Red Jacket*'s famous voyage need no recapitulation, her last performance of 63 days from England to Melbourne stamps her as the fastest clipper afloat.

For freight or passage, apply to H. T. Wilson and Chambers, 21, Water-street, Liverpool; or to GRINDLAY and Co., agents, 63, Cornhill, London.

STEAM PUMPS, FOR LAND AND MARINE PURPOSES.

SINGLE or DOUBLE ACTING; sizes from 2½ to 12 in. diameter, and from 4 to 8 in. stroke; by JOHN CAMERON. Used for feeding boilers, raising water (for reservoirs, tanks, irrigation, &c.), turning power, or as a steam fire engine.

Works, Exeter-street, Bulsivey, Manchester.

ECONOMICAL MANUFACTURE OF CARBONATE OF SODA.

FROM THE
WASTE SULPHUR FUMES OF COKE OVENS, COPPER, IRON, ZINC, AND
LEAD WORKS.

For the description, see the *Mining Journal* of the 15th March; and for particulars respecting license, &c., apply personally, or by letter (post paid), to M. MESDAK, 28, Rue St. Paul, Paris.

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GAS WORKS ERECTED FOR MINES, PUBLIC BUILDINGS, TOWNS, &c.

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TO CONTINENTAL AND FOREIGN GOVERNMENTS, AND CAPITALISTS.

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Having INVENTED and PERFECTED, on the scale of manufacture, SEVERAL
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1. The MANUFACTURE of CAST-STEEL direct from the ORE, at a prime cost of
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from ore carefully selected, is far superior to that at present manufactured from the
expensive bar-iron of Sweden and Russia.

3. The MANUFACTURE of CAST-STEEL from ANY KIND of BAR-IRON, STEEL,
or SCRAP IRON, whether COKE or CHARCOAL IRON, so that a first-rate quality is
obtained from ordinary charcoal iron, and good serviceable cast-steel is prepared from the
cheapest scrap or bar-iron, at a cost of from £12 to £16 per ton.

4. The MANUFACTURE of CAST-STEEL from PIG-IRON and IRON ORE, so as to
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first-rate cast-steel from charcoal pig-iron, at one melting, and without injury to the
melting-pots, for £10 to £15 per ton.

Parties who may be disposed to treat for any of these inventions, and who agree upon
the terms which may be proposed, will also, if they require it, be taught and fully in-
structed in the routine of producing cast-steel upon the scale of manufacture,—namely,
the construction of the furnaces, pot mixtures, method of making the pots, managing
them, &c., heating and drawing out of the ingots, &c.; and they may have their own
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References—Messrs. BROMAGE, SNEAD, and GOOLING, Bankers, Monmouth.
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HOMOGENEOUS BOILER-PLATE METAL, combining the strength and durability of
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SELL and HOWELL'S PATENT CAST-STEEL TUBES, for multitubular boilers, shafting,
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THE MINING SHARE LIST.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
5120 Alfred Consols (cop.), Phillack* [S.E.]	£2 11 10	£2 11	11 1/2	£18 6 0	£0 3 0	April 5, 1858.
1624 Ballewswidden (tin), St. Just	11 5 0	4	4 5	12 5 0	0 5 0	Jan. 1, 1854.
4000 Belford United (copper), Tavistock	2 6 8	6 1/2	6 1/2	9 19 0	0 2 6	March 4, 1858.
2400 Boscrean (tin), St. Just	20 10 0	65	65	21 0 0	0 3 0	Sept. 4, 1857.
2000 Botallack (tin, copper), St. Just*	31 5 0	150	150 155	420 15 0	2 10 0	Feb. 16, 1858.
1200 Brightside and Froggatt Grove, Derbyshire	3 0 0	3 1/2	3 1/2	3 0 0	0 3 0	April 30, 1856.
1000 Brynford Hall (lead), Flintshire	25 0 0	50	50	13 0 0	0 5 0	July 31, 1856.
1000 Bryntail, Llanidloes, Montgomeryshire	7 15 0	11/2	11 1/2	0 5 0	0 5 0	July 1, 1856.
4000 Budnick Consols (tin), Perran	2 2 8	5	4 1/2	0 10 0	0 10 0	March 26, 1857.
6000 Bwlch (silver-lead), Cardiganshire	3 5 6	1	1 1/2	0 2 6	0 2 6	July 30, 1856.
4098 Calstock Consols (copper)	5 0 0	4 1/2	4 1/2	0 2 6	0 2 6	Dec. 25, 1857.
1000 Carn Brea (copper, tin), Illogan	15 0 0	50	47 1/2	239 10 0	2 0 0	March 30, 1858.
2048 Carnyorth (tin, St. Just)	4 10 0	5 1/2	5 1/2	0 15 0	0 3 0	June 16, 1856.
2000 Cefn Cwm Brynwyd (lead), Cardiganshire	35 0 0	43	43	5 0 0	2 0	March 25, 1858.
2000 Coliacoupe (copper), Lamerion	5 0 0	15	12 1/2	2 5 0	0 8 0	Dec. 2, 1857.
256 Conduffor (copper, tin), Camborne* [S.E.]	20 0 0	85	85 90	85 0 0	2 0 0	June 10, 1857.
1055 Cradock Moor (copper), St. Cleer	8 0 0	40	40	1 9 0	0 5 0	May 14, 1858.
2000 Craven Moor, Limited (lead), Yorkshire	0 10 0	3/4	3/4	0 9 0	0 9 0	Feb. 28, 1856.
128 Cwmyntif (lead), Cardiganshire*	60 0 0	200	125 0	5 0 0	5 0 0	May 6, 1858.
280 Derwent Mines (silver-lead), Durham	300 0 0	150	150	122 0 0	0 10 0	June 25, 1857.
4076 Devon and Cornwall (copper)	4 6 3	17	16 18	0 5 0	0 5 0	April 20, 1858.
1024 Devon Great Consols (cop.), Tavistock* [S.E.]	1 0 0	470	470 475	69 0 0	7 0 0	March 26, 1858.
672 Ding Dong (tin), Galvial*	33 15 0	16	16	16 7 6	1 10 0	March 2, 1857.
175 Dolcoath (tin, copper), Tintagel	257 15 0	275	260 270	953 0 0	10 0 0	April 12, 1858.
12800 Drake Walls (tin, copper), Calstock	1 19 0	1 1/2	1 1/2	0 13 6	0 2 0	Sept. 11, 1857.
300 East Daren (lead), Cardiganshire*	32 0 0	115	115 120	42 0 0	3 0 0	April 15, 1858.
120 East Falmath (copper), Whitechurch	2 0 0	4	4	0 7 6	0 2 6	Jan. 25, 1858.
120 East Pool (tin, copper), Pool, Illogan*	24 5 0	175	175	297 10 0	2 10 0	Feb. 22, 1858.
1024 East Wheal Margaret (tin, copper)	7 17 6	6	5 1/2	0 5 0	0 5 0	Jan. 11, 1854.
5700 Exmouth (silver-lead), Christow	4 14 0	8	8	3 15 0	0 2 6	April 27, 1858.
1400 Eymil Mining Company (lead), Derbyshire	5 0 0	47	47	17 13 4	1 0 0	May 4, 1858.
4940 Fowey Consols (copper), Tywardreath	4 0 0	4	4 1/2	41 4 3	0 6 0	Feb. 17, 1857.
4448 General Mining Co. for Ireland (cop.), lead	4 0 0	2 1/2	2 1/2	1 0 8	0 3 3	May 5, 1853.
2000 Goginan (silver-lead), Cardiganshire	11 5 0	2 1/2	2 1/2	22 0 0	0 5 0	Sept. 5, 1850.
1024 Gomena (copper, St. Cleer)	13 15 0	11	10 12	0 7 6	0 7 6	Dec. 21, 1852.
243 Grambler and St. Aubyn (copper)	109 10 0	115	115 117 1/2	10 0 0	3 0 0	May 4, 1858.
6000 Great South Tolga [S.E.]	0 14 6	14 1/2	14 1/2	2 1 6	0 7 0	April 15, 1858.
26666 Great Wheal Vor (tin, cop.), Helston [S.E.]	8 2 6	13/2	13 1/2	0 5 0	0 5 0	Oct. 22, 1855.
119 Great Work (tin), Germoe	100 0 0	100	221 10 0	7 10 0	Feb. 27, 1857.	
1024 Herodsfoot (lead), near Liskeard	8 10 0	8 1/2	8 1/2	3 15 0	0 12 0	Jan. 28, 1858.
6000 Hington Down Consols (copper), Calstock	3 10 0	5 1/2	5 1/2	2 16 0	0 2 0	Nov. 25, 1856.
2000 Holyford (copper), near Tipperary	11 0 0	8 1/2	8 1/2	4 2 6	0 5 0	Jan. 28, 1857.
2560 Isle of Man, Limited (lead)*	25 0 0	42	42	56 17 3	1 0 0	March 18, 1858.
78 Jamaica (lead), Mold, Flintshire	3 13 8	—	—	380 0 0	5 0 0	March 10, 1851.
20 Laxey Mining Company, Isle of Man	100 0 0	1000	1000	1420 0 0	50 0	June 30, 1857.
160 Levant (copper, tin), St. Just	2 10 0	115	115 120	1064 0 0	2 0 0	Feb. 17, 1858.
5000 Lewis Mines (tin, copper), St. Erth	6 1 11	2	2 1/2	0 10 0	0 10 0	Dec. 20, 1855.
6000 Little Valley (copper), Caradon	4 10 6	1 1/2	1 1/2	0 5 6 0	0 3 0	Sept. 3, 1855.
5000 Mendip Hills (lead), Somerset	3 15 0	13/2	13 1/2	1 7 6	0 5 0	May 29, 1857.
5000 Merllyn (lead), Flint	3 2 6	1/2	1/2	1 11 0	0 2 6	June 22, 1853.
1800 Minera Mines, Limited (lead), Wrexham	25 0 0	125	125	30 2 6	3 0 0	May 8, 1858.
20000 Mining Company of Ireland (cop., lead, coal)	7 0 0	175	175	12 9 0	0 12 3	Jan. 7, 1858.
5000 Nanticoe and Penrhiew, Limited (4 1/2% shares)	1 17 6	1 1/2	1 1/2	0 1 6	0 1 6	April 30, 1855.
6400 Nether Heath, Westmoreland	0 7 0	1	1 1/2	0 2 0	0 1 0	May 21, 1856.
4700 Newtonards Mining Company, Co. Down	50 0 0	35	51 0 0	2 0 0	Dec. 26, 1854.	
200 North Pool (copper, tin), Pool	36 10 3	65	55 65	324 0 0	2 0 0	Sept. 26, 1853.
700 North Roskear (copper), Camborne	12 0 0	24/2	24/2	750 0 0	4 0 0	Sept. 4, 1853.
6000 North Wheal Bassett (cop.), Illogan* [S.E.]	nil.	104 1/2	11 11/2	14 7 0	0 8 0	Feb. 24, 1858.
6400 Par Consols (copper), St. Blazey* [S.E.]	1 2 6	18 1/2	20	31 14 0	0 10 0	March 2, 1858.
500 Peak United (lead), North Derbyshire	7 15 0	21/2	21/2	4 10 0	0 10 0	April 12, 1856.
200 Phoenix (copper, tin), Linkinhorne	100 0 0	370	260 250	260 10 0	25 0 0	May 5, 1858.
1000 Polberrow (tin), St. Agnes (Preferential)	15 0 0	5	5	18 11 9	0 3 0	July 11, 1857.
1772 ditto ditto (Old and ditto)	—	5	1	1 0 0	0 10 0	March 2, 1858.
560 Providence Mines (tin), Uvy Lelant*	20 13 2	66	67 1/2	72 4 6	2 0 0	Feb. 24, 1858.
2500 Rhosydol and Bacheddion (lead)	11 5 0	12	12	0 13 0	0 3 0	Oct. 21, 1857.
512 Rosewarne United (copper, tin), Gwinnear*	12 0 0	25	25 27 1/2	32 10 0	1 10 0	June 8, 1857.
15000 Ruarden Colliery Company, Limited	0 5 0	98	98 1/2	0 10 1/2	0 6 0	Feb. 4, 1858.
12000 Sorriford Consols (cop.), Whitechurch* [S.E.]	0 6 0	13 1/2	13 1/2	0 10 0	0 2 6	July 27, 1857.
256 South Cadron (copper), St. Cleer* [S.E.]	2 10 0	395	510 0	10 0 0	March 30, 1858.	
20000 St. Day United (tin and copper)	2 0 0	3	3	0 3 6	0 1 0	Feb. 23, 1858.
470 St. Ives Consols (tin), St. Ives	16 0 0	375	35 40	915 0 0	1 0 0	Nov. 19, 1857.
9000 Tamar Consols (silver-lead), Bodelston [S.E.]	4 10 0	1 1/2	1 1/2	4 13 6	0 2 6	Feb. 7, 1856.
6000 Tincrift (copper, tin), Pool, Illogan [S.E.]	9 0 0	33 1/2	33 1/2	8 13 6	0 10 0	Feb. 18, 1858.
572 Trelyon Consols (tin), St. Ives	11 10 0	91 1/2	91 1/2	32 10 0	1 10 0	Feb. 21, 1854.
96 Tresavean (copper), Gwennap, Cornwall	42 10 0	65	60 65	4677 15 0	5 0 0	June 5, 1855.
120 Trehislan (copper), Gwennap, Cornwall	15 10 0	15	15	403 13 6	2 10 0	April 29, 1851.
4000 Trestoli (copper, tin), Bodmin	1 3 6	1	1 1/2	0 5 0	0 5 0	July 8, 1852.
4096 Treweath (silver-lead), Menheniot, Cornwall	2 10 0	1	1	1 12 0	0 3 0	April 2, 1857.
100 Trumpet Consols (tin), near Helston	95 0 0	10	10 12 1/2	55 0 0	5 0 0	Dec. 20, 1854.
490 United Mines (copper), Gwennap [S.E.]	40 0 0	100	61 5 0	2 0 0	Feb. 12, 1856.	
2000 Vale of Towy (lead), Carmarthen [S.E.]	0 12 6	1 1/2	1 1/2	0 4 9	0 1 0	March 12, 1858.
512 Wendron Consols (tin), Wendron	23 7 8	32 1/2	32 1/2	2 0 0	1 0 0	Sept. 22, 1857.
256 West Cadron (copper), Illogan* [S.E.]	1 10 0	24	24 25	12 18 0	0 8 0	Jan. 27, 1858.
256 West Danse (copper), Gwennap	10 7 0	105	220 225	285 5 0	2 0 0	Sept. 23, 1857.
4000 West Fowey Consols (tin and copper)	7 0 0	8 1/2	8 1/2	2 0 0	2 0 0	July 20, 1857.
1024 West Providence (tin), St. Erth	2 11 7	3	3	31 1 9	0 10 0	April 8, 1857.
400 West Wheal Seton (copper), Camborne*	30 10 0	310	116 10 0	8 0 0	8 0 0	April 13, 1858.
1224 Wheal Arthur (copper), Calstock	9 0 0	4 1/2	5 1/2	6 10 0	0 10 0	Oct. 25, 1855.
249 Wheal Bal (tin, St. Just)	15 0 0	18	18	2 0 0	1 0 0	Nov. 14, 1855.
512 Wheal Bassett (copper), Illogan* [S.E.]	5 2 6	22	220 225	483 10 0	5 0 0	March 6, 1858.
512 Wheal Moor (copper, tin), Breage	6 8 4	4 1/2	4 1/2	0 17 6</td		